

## Curriculum Vitae

- 1. Name** : Dr. Anil K. Chaubey
- 2. Father's Name** : Late Shri Chanda Shekhar Chaubey
- 3. Date and Place of Birth** : 1<sup>st</sup> January 1959, Gorakhpur (UP)
- 4. Nationality** : Indian by birth
- 5. Current Professional Status** : Department of Applied Geophysics  
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### **7. Educational Qualifications:**

S. No.	Degree/ Certificate	Year of Passing	University / Institute	Subjects
1.	Ph.D.	1998	Goa University	Marine Sciences
2.	M.Tech.	1983	University of Roorkee (Now IIT, Roorkee)	Applied Geophysics
3.	B.Sc.	1979	Gorakhpur University	Physics, Chemistry and Maths

### **8. Positions held:**

Position	Institute/University	Period
Visiting Professor	Department of Applied Geophysics, IIT (ISM), Dhanbad	10.08.2021-continue
Consultant	ESSO-NCPOR, Goa	16.07.2020 – 09.08.2021
Chief Scientist and, Scientist-in-Charge	CSIR-NIO, Regional Centre, Mumbai	01.04.2015 – 31.12.2018
Chief Scientist	CSIR-NIO, Goa	30.07.2009 – 31.03.2015
Scientist F	CSIR-NIO, Goa	30.07.2004 – 29.07.2009
Scientist EII	CSIR-NIO, Goa	30.07.1999 – 29.07.2004
Scientist EI	CSIR-NIO, Goa	30.07.1994 – 29.07.1999
Scientist C	CSIR-NIO, Goa	30.07.1989 – 29.07.1994
Scientist B	CSIR-NIO, Goa	30.07.1984 - 29.07.1989
Research Assistant	University of Roorkee (Now IIT, Roorkee)	01.09.1983 – 25.06.1984

## 9. Area of Specialization :

- Marine Geophysics
- Gravity, magnetic and seismic methods
  - Continental margins and EEZ
  - Ocean-floor morphology and tectonics
  - Lithosphere and active spreading regions
  - Outer limits of Extended Continental Shelf
  - High resolution subsurface imaging in near shore region
  - Coastal Zones Management and Regulations

## 10. Membership of Academic / Professional Bodies:

- (i) Member, Association of Exploration Geophysicists, India (since 1985).
- (ii) Member, Geological Society of India (since 1988).
- (iii) Member, Indian Geophysical Union (since 2002).
- (iv) Member, American Geophysical Union (since 2002).
- (v) Member, Asia Oceania Geosciences Society, Singapore (since 2004).

## 11. Awards / Honors received:

Year	Honor/Award
1999	Recipient of <b>M.S. Krishnan Medal</b> , awarded by the Indian Geophysical Union for significant contribution in "Tectonic setting of the Indian Ocean".
1999	Recipient of <b>Post-Doctoral Fellowship</b> (September 1999-August 2000), offered by the Institut Universitaire Européen de la Mer, Université de Bretagne Occidentale, Plouzané, France.
2000	<b>Invited</b> to dive ~2400 m deep in the Indian Ocean onboard manned submersible <b>Nautilie</b> (French) for detailed geological and geophysical investigations of seafloor of the Central Indian Ridge.
2002	Recipient of the " <b>National Mineral Award</b> ", awarded by the Ministry of Mines, Government of India in recognition of significant contribution in the field of Geophysics.
2002	Elected as <b>Fellow</b> of the Indian Geophysical Union.
2003	<b>Invited to serve as "Editorial Board Member"</b> of an international scientific journal " <b>Marine Geophysical Researches</b> " (from 2003 till date).
2010	Recipient of the " <b>National Geoscience Award</b> ", awarded by the Ministry of Mines, Government of India in recognition of significant contribution in the field Ocean Development.
2012	<b>Invited to serve as "Associate Editor"</b> of the Journal of Earth System Science (from 2012 to 2015).
2013	" <b>Certificate of Appreciation</b> " by Director, CSIR-NIO.
2018	<b>Guest of honor</b> on 56 <sup>th</sup> Foundation Day of Keshava Deva Malviya Institute of Petroleum Exploration, Dehradun.

## 12. Research Experience:

Joined National Institute of Oceanography, Goa on 30<sup>th</sup> July 1984 after completing M.Tech. in Applied Geophysics from the University of Roorkee in 1983. Started my career in Marine Geophysics and subsequently received specialized training in India and abroad in handling marine magnetic, gravity and seismic (reflection and refraction) data. Carried out basic and applied research since then in the field of **Marine Geophysics** in understanding the **tectonic setting** of the Indian Ocean in general and Arabian & Eastern Somali basins, and western continental margin of India in particular. The studies involved bathymetry, marine magnetic, gravity and single- / multi-channel seismic reflection data acquisition, analysis and interpretation, both on continental margins of India and adjacent deep-sea region.

I gained 37 years of research experience in (i) marine geophysical data acquisition, processing and interpretation, and (ii) planning & execution of several national and international scientific projects. Published more than 70 scientific papers/reports, participated (~1200 days) in cruises of various Indian and foreign research vessels. Apart of the above, contributed significantly in teaching and guiding students for Ph.D. and M.Tech. / M.Sc. Dissertations, and summer interns of graduate students. Merits of scientific output have been recognized by various government and scientific bodies in the form of Krishnan Medal, National Mineral Award, National Geoscience Award, Post-doctoral fellowship, editorial board member of scientific journal, examiner of Ph.D. thesis and PG students of universities etc. Apart of the above, contributed significantly, in following major R&D projects:

### a) Inhouse R&D Projects:

- Geophysical studies of the western continental margin of India.
- Geophysical studies of the Bay of Bengal.

### b) International Collaborative Projects:

- Paleo-propagating ridges and the plate tectonic evolution of the Arabian and eastern Somali basins, Northwest Indian Ocean.

**[Collaborative project between India and France awarded by Indo-French Centre for the Promotion of Advanced Research (IFCPAR)]**

- Trans Indian Ocean Geotraverse (TIOG).

### **(Bilateral Program between India and Russia in Oceanology)**

- Participated in the **post Tsunami survey** in Andaman-Sumatra earthquake region onboard French Research Vessel *Marion Dufresne* from 7 July to 10 August 2006. The scientific results are published in EPSL.

### c) CSIR Network Project:

- Tectonic and oceanic processes along Indian Ridge system and back arc basin.

### d) National Priority Projects:

- Delineation of outer limits of the Extended Continental Shelf (LCS) of India, a project funded by the Ministry of Earth Sciences (Govt. of India), New Delhi through NCPOR, Vasco-da-Gama, Goa.
- Preparation of Gas Hydrate Resource Map of India, under the National Gas Hydrate Program, sponsored by the Gas Authority of India Limited.
- Delineation of Bottom Simulating Reflections (BSR's) on the western continental margin of India, sponsored by the Gas Authority of India Limited.

## 13. Onboard Experience:

Participated (~1200 days) in cruises of various Indian and foreign research vessels in connection with acquisition of marine geophysical data in the Arabian Sea, Bay of Bengal and Central Indian Ocean. Led some of the cruises as the Chief of Expedition. Apart of the above, led several near shore field survey programs to provide scientific advisory to Government / coastal industries through application of specific knowledge of research.

## 14. Teaching Experience:

- **Faculty** (August 2021-till date) of the Department of Applied Geophysics, IIT (ISM), Dhanbad. Teaching courses such as Geophysical Prospecting, Oceanography, Introduction to rock Physics, Airborne Geophysics, Earth and Planetary System to applied geophysics students of M.Sc. Tech & Int. M. Tech., and B.Tech. students. In addition, undertaking practical classes.
- **Coordinator** (2005-2013) of a major training programme entitles "Industrial Offshore Surveys – Long Hydrography Course" for naval officers of India and Indian Ocean rim countries deputed by the National Hydrography School, Goa. This course is a part of Master of Hydrographic Surveying (MHS) degree ➔ a post-graduate degree of the Goa University. The course is organized every year for a period of 30 days at CSIR-NIO, Goa.
- **Coordinated** (2007-2013) guest lectures on various topics of "Advanced Hydrography" delivered by the faculty of the CSIR-National Institute of Oceanography, Goa to commanders of Indian Navy selected by the National Hydrographic School, Goa.
- **Imparted training** on "Basics of Marine Geophysics" to researchers and students of Geological Survey of Iran at GSI, Iran during 6-17 July 2007.

- **Imparted training** to visiting scientists and administrators from Union of Myanmar at NCAOR, Goa.
- **Coordinated** a national training program on "Multidisciplinary Oceanographic Observations for Coastal Zone Management" for officials of Gujarat Ecology Commission, Gujarat at CSIR-NIO, Goa during 30 July - 9 August 2012.
- **Coordinated** training program on "Multidisciplinary Oceanographic Observations for Coastal Zone Management" for officials of member countries of South Asian Association for Regional Co-operation (SAARC) at CSIR-NIO, Goa during 24 September - 28 October 2012.
- **Course Coordinator** of a course entitled "Introduction to Oceanography (Marine Geology and Geophysics section)" for AcSIR Ph.D. program at School of Oceanography, NIO, Goa.
- **Faculty Member** of two courses entitled "Introduction to Oceanography (Marine Geology and Geophysics section)" and "Continental Margins and Ocean Basins" for AcSIR Ph.D. program at School of Oceanography, NIO, Goa from 2012-2018.
- **Organized a national seminar** on "Approaches to clean and sustainable development in coastal zones of India - Present status and future need" at CSIR-NIO, Regional Centre, Mumbai during 26-28 August 2016.
- **Contributory faculty** (Marine Geophysics) in the Department of Marine Sciences, Goa University from time to time during 2008-2014..
- **Contributory faculty** (Marine Geophysics) in the Department of Marine Archaeology, Deccan College, Pune from 2015 to till date.
- **Organized-** training programme for 44 auditors from 33 countries (deputed of the CAG of India) on "Environment Audit" at NIO, Goa during 22-23 January 2009.
- **Organized-** training programme for 40 auditors from 20 countries (deputed of the CAG of India) on "Environment Audit" at the NIO, Goa, 17-19 January 2007.
- **Organizing member-** International Workshop on 'Tectonic & Oceanic Processes along the Indian Ocean Ridge System', held at NIO, Goa, 19–21 January 2005.
- **Visiting Professor** - Presently serving as visiting professor at the Department of Applied Geophysics, IIT (ISM), Dhanbad since 10th August 2021. Carry out teaching, research and supervision of PG students for their thesis unit.

**15. Administrative Experience:**

S. No.	From	To	Administrative Positions
1	July 2022	Till date	<ul style="list-style-type: none"> <li>➤ In-Charge, Training and Placement of the Department of Applied Geophysics, IIT(ISM), Dhanbad.</li> <li>➤ Member DUGC (Departmental Under Graduate Committee), Dept of Applied Geophysics, IIT(ISM), Dhanbad.</li> <li>➤ Member DPGC (Departmental Post-Graduate Committee), Dept of Applied Geophysics, IIT(ISM), Dhanbad.</li> </ul>
1	April. 2015	Dec 2018	<ul style="list-style-type: none"> <li>➤ Scientist-in-Charge, CSIR-NIO, Regional Centre, Mumbai.</li> <li>➤ DU (Decision Unit) Leader of DU-74.</li> <li>➤ Project Leader of project entitled "Marine ecological assessment and studies for sustainable developments in the coastal and shelf areas in west coast of India".</li> </ul>
2.	Sept. 2009	March. 2015	<ul style="list-style-type: none"> <li>➤ DU Leader, DU-38 / DU-72.</li> <li>➤ Project Leader of projects entitled "Applications of marine geo-scientific methods to study seabed and sub-seabed geological features of near shore region of India" and "Geological and geophysical studies of coastal zone of India".</li> </ul>

**16 (a) Major Assignments at National Level:**

- (i) Member, Program Advisory and Monitoring Committee - Seismicity and earthquake program, Ministry of Earth Sciences, New Delhi from Jan, 2017 to April, 2020.
- (ii) Chairman, Selection Committees for recruitment of technical assistants and Group-III at CSIR- National Environmental Engineering Research Institute, Nagpur in 2016.
- (iii) Member, Board of studies in Hydrography in Goa University in 2016.
- (iv) Examiner to evaluate answer sheets of Combined Geoscientists Exam. conducted by Union Public Service Commission, New Delhi in 2015.
- (v) Member of personality test / interview board for promotion to the post of Scientist 'C', conducted by the Union Public Service Commission, New Delhi in 2011.
- (vi) Member of peer team of National Assessment and Accreditation Council, Nagpur for assessment of Academy of Maritime Education and Training, Chennai, in October, 2015
- (vii) External Eminent Expert for selection of "Gopal Ranjan Research Award" for IIT, Roorkee, 2012.
- (viii) Member of Group Monitoring Committee (GMC) for Geoscience Programme constituted by Ministry of Earth Sciences, New Delhi from 2010 to 2015.
- (ix) Expert Member of Departmental Promotion Committee of National Centre for Antarctic and Ocean Research, Goa in 2009.
- (x) Member of expert committee to assess the progress of work and to examine the reasonableness of the revised cost estimate for delineation of the outer

- limits of the continental shelf program, constituted by NCAOR, Goa, 2016.
- (xi) Expert member for moderation of question paper of Combined Geologist Exam. conducted by the Union Public Service Commission, New Delhi in July 2016.
  - (xii) Member of Five Yearly Assessment Committee of Technical Officers/Staffs Under the Group-II Laboratory Technician, ICAR–Central Institute of Fisheries Education, Mumbai, in 2016.
  - (xiii) Director Nominee, Member of National Coastal Zone Management Authority, New Delhi from May 2012 to Dec, 2018.
  - (xiv) Director Nominee, Member, Dahanu Taluka Environment Protection Authority, Mumbai from April 2015 to Dec 2018.
  - (xv) Examiner to evaluate answer sheets of Combined Geoscientist and Geologist Exam. conducted by the Union Public Service Commission, New Delhi in July-August 2019.
  - (xvi) Examiner to evaluate answer sheets of Combined Geoscientist and Geologist Exam. conducted by the Union Public Service Commission, New Delhi in November, 2020.
  - (xvii) Member of Maharashtra Coastal Zone Management Authority from July 2018 - July 2021.
  - (xviii) Expert member to set question paper for Combined Geoscientist and Geologist Exam. conducted by the Union Public Service Commission, New Delhi in June 2021.
  - (xix) Chairman, Assessment Committee (appointed by the Agricultural Scientists Recruitment Board) of Group V under category III personnel of ICAR-CIFE, Mumbai in August 2021.
  - (xx) Examiner to evaluate answer sheets of Combined Geoscientist and Geologist Exam. conducted by the Union Public Service Commission, New Delhi in July-August 2021.
  - (xxi) Serving Member of the Maharashtra Coastal Zone Management Authority for a period of three years from Dec. 2021.

#### **16 (b) Major Assignments at Institutional Level:**

Contributed as Chairman, Co-chairman and members in various institutional committees during my tenure at CSIR-NIO, Goa.

- (i) Chairman, Technical and Purchase Committee (Field Equipment), CSIR-NIO, Goa.
- (ii) Chairman, Vehicle Maintenance Committee, CSIR-NIO, Goa.
- (iii) Co-chairman, Standing Purchase Committee (SPC) II, CSIR-NIO, Goa
- (iv) Member, Official Language Implementation Committee, CSIR-NIO, Goa
- (v) Member, Prioritization Committee, CSIR-NIO, Goa
- (vi) Member, Management Council of CSIR-NIO, Goa.

#### **17. Contributions to Scientific and Industrial Research:**

My R&D contributions provided crucial information for improving the understanding about the regional structure, tectonics and geological evolution of the western continental margin of India. The information in turn are useful for conceptual evaluation of the non-living resource potential of frontier deep water basins. Following are the most significant research contributions:

- i) Reported, for the first time, depth anomaly in the Arabian Basin. The results suggest that subsidence in the basin did not follow the age-depth relationship of normal oceanic crust.
- ii) Identified, for the first time, Seaward Dipping Reflectors (SDRs) along western flank of the Laccadive Ridge.
- iii) Provided evidence for the volcanic rifted margin for the southwest continental margin of India.
- iv) Deciphered crustal structure and ocean–continent boundary of the southwest continental margin of India
- v) Deciphered active processes shaping the seafloor of the source region of the 26 December 2004 Sumatra earthquake based on high-resolution multi-beam bathymetric images.
- vi) Interpreted highly segmented nature of the 440 km long section of the active Carlsberg Ridge based on multi-beam bathymetry and magnetic data.
- vii) Played a lead role in team building and created necessary infrastructure to undertake high resolution geophysical exploration of near shore regions.
- viii) Developed human resource by imparted training to students of various Indian universities, naval officers of India and Indian Ocean rim countries and students/researchers abroad.

### **Significant Contributions to Society and Coastal Industries through Applied Research**

Led scientific and technical team, from time to time, to investigate issues related to offshore geological / environmental hazards in order to serve coastal population. Advised Govt. authorities for better planning and coastal management towards environmental protection and coastal resources. Facilitated in providing quality geo-scientific services and advisories to various industries. The experience gained by me and my team further attracted national importance project from Power Grid Corporation of India Limited, Nuclear Power Corporation of India Limited, Sethusamudram Corporation Limited etc.

### **18. Research Publications :**

<b>(i) Research Publications</b>	<b>: 50</b>
(National Journal: 12, International Journal: 29, Research article in Book: 8, Research papers in conference / symposia /seminar: 1)	
<b>(ii) Other Publications</b>	
Popular article in Hindi	: 03
Technical reports	: 10
<b>(iii) Abstracts in seminar/symposia</b>	<b>: 53</b>
	<b>===</b>
<b>Total</b>	<b>:116</b>

## International Publications: 29

Marine Geology	: 5
Earth Planet. Sci. Lett.	: 3
Mar. Geophys. Res.	: 3
J. Geophys. Res. - Solid Earth	: 2
Marine Geodesy	: 1
Tectonophysics	: 2
Deep-Sea Research	: 1
Sedimentary Geology	: 1
J. Coastal Research	: 1
InterRidge News	: 1
Journal of Geodynamics	: 1
Geo-Marine Letters	: 1
J. of Geodesy	: 1
Natural Hazards	: 1
J. Asian Earth Sciences	: 2
Geoscience Frontiers	: 1
Natural Hazards	: 1
Quaternary Research	: 1

### 19. Human Resource Development / Capacity Building:

(a) Ph.D. Supervision: 4 (completed)

(b) Supervision of Post-Graduation dissertations: 15, Summer interns: 10

### 20. Visits Abroad:

Countries Visited	Duration of visit	Objective of the visit
Mauritius	23 June 1985 to 25 June 1985	To demonstrate Indian capabilities in the field of oceanographic research onboard ORV Sagar Kanya.
Norway	7 Aug. 1987 to 5 Feb. 1988	Training on NORSEIS for processing of multi-channel seismic reflection data at Geophysical Company (GECO), Sandvika.
Singapore	22 May 1989 to 23 May 1989	Embarkation onboard <i>R/V Yuzhmorgeologia</i> in connection with Trans Indian Ocean Geotraverse (TIOG) cruise.
Seychelles	5 July 1989 to 6 July 1989	Dis-embarkation onboard <i>R/V Yuzhmorgeologia</i> in connection with Trans Indian Ocean Geotraverse (TIOG) cruise.
U.S.A.	27 Oct. 1997 to 17 Nov. 1997	i) Training on ProMAX-2D for processing of multi-channel seismic reflection data at Landmark Graphics Inc., Denver, Colorado. ii) Discussion on gas hydrate and processing techniques for identification of BSR at US

		Geological Survey, Denver, Colorado.
France	9 Sept. 1999 to 31 Aug. 2000	Post-Doctoral fellowship to Institut Universitaire Européen de la Mer, Université de Bretagne Occidentale, Plouzané, France.
Mauritius	12 May 2000 to 14 May 2000	Embarkation R/V l'Atalante to participate in deep-sea diving cruise in the Indian Ocean.
Reunion	7 June 2000 to 8 June 2000	Dis-embarkation R/V l'Atalante in connection with participation in deep-sea diving cruise in the Indian Ocean.
France	12 March 2003 to 2 April 2003	Exchange visit to IPG Paris and UBO, Brest under bilateral collaborative project funded by IFCPAR, New Delhi.
Maldives	25 July 2003 to 28 July 2003	Port call at Male after completion of ORV Sagar Kanya cruise.
Singapore	05 July 2004 to 10 July 2004	To attend and present paper in the 1 <sup>st</sup> Annual Meeting of the Asia Oceania Geosciences Society (AOGS).
Canada	4 Dec. 2005 to 21 Dec. 2005	On 'Tessera-2D' for modeling and interpretation of refraction data at M/s Tesseral Technologies Inc., Calgary.
USA	11 Dec. 2006 to 15 Dec. 2006	To attend and present a research paper in 2006 American Geophysical Union Fall Meeting at San Francisco, CA, USA.
Iran	6 July 2007 to 13 July 2007	To impart training on marine geophysical methods to scientists/researchers of the Marine Geology Department of Geological Survey of Iran, Tehran, Iran
USA	15 Dec. 2008 to 19 Dec. 2008	To attend and present a research paper in 2008 American Geophysical Union Fall Meeting at San Francisco, CA, USA.
Iran	21 Aug. 2009 to 18 Sept. 2009	To impart training on marine geophysical data processing and interpretation to scientists/researchers of the Marine Geology Department of Geological Survey of Iran, Tehran, Iran
USA	14 Aug. 2010 to	To present scientific and technical aspects of India's extended continental shelf before the

	21 Aug. 2010	Commission on the Limits of the Continental Shelf at United Nations, New York.
USA	03 Dec. 2012 to 07 Dec. 2012	To attend and present a research paper in 2010 American Geophysical Union Fall Meeting at San Francisco, CA, USA.
Germany	26 June 2018 to 28 June 2018	To attend the International Ocean Discovery Program (IODP) Science Evaluation Panel meeting at GFZ German Research Centre for Geosciences, Helmholtz Centre Potsdam, Telegrafenberg, D-14473 Potsdam, Germany.

## 21. Appreciation of Scientific Achievements:

- The esteemed reviewer of Journal *Earth and Planetary Science Letters*, has appreciated the research work (*Earth Planet. Sci. Lett.* 1998) as “**the work of Chaubey et al. is by far the best coming out of India in this field (Marine Magnetic).**”
- **CSIR** has recognized the paper (*Earth Planet. Sci. Lett.* 1998) as one amongst **top 36 research papers of CSIR** (INSDOC Report, 1999, New Delhi).
- The research work (Mar. Geodesy, vol. 17, 1994) on **seamount chain (RAMAN, PANNIKAR and WADIA)** was recognized by **CSIR** as significant contribution and received wide coverage in different **media**.
- High precision gravity data, collected around Bombay High for ONGC was recognized as a **Significant Achievement by CSIR during 1988**.
- One Publication (Deep-Sea Res., Vol. 37, 1990) was selected by M/s. Pergamon Press for inclusion in their promotional literature (entitled ‘**Oceanography from Pergamon Press**’) for circulation to international scientific community.
- Gas Authority of India Limited has appreciated the **excellent work** carried out during Gas Hydrate project (NIO/CON-3/99, 1999) awarded to NIO.
- Project completion report of the Indo-French collaborative project entitled “Paleo-propagating ridges and the plate tectonic evolution of the Arabian and Eastern Somali basins, Northwest Indian Ocean” was rated as “**EXCELLENT**” by the Scientific Council of the Indo-French Centre for the Promotion of Advanced Research, New Delhi.
- **First Indian scientist** to dive in the Indian Ocean, ~2400 m deep, onboard French submersible **Nautilie** for detailed geological and geophysical investigations of seafloor of the Central Indian Ridge.

## 22. Contribution towards delineation of the outer limit of the extended continental shelf of India - a major national priority project:

- Significantly contributed in providing the science behind India's claim to extend the country's limit of the continental shelves beyond the Exclusive Economic Zone. This major national importance project entitled "Delineation of outer limits of India's continental shelves" was initiated by the Ministry of Earth-Sciences (Govt. of India), New Delhi and implemented by NCPOR, Goa.
- As a Project Leader (Arabian Sea Sector), I guided the team in successful completion of processing, analyses, and interpretation of geophysical data of the project.
- Significantly contributed towards generating scientific database of the project for submission to the United Nations to claim country's extended continental shelf.
- Contributed significantly in preparation of the scientific and technical documents which were submitted to the Commission on the Limits of Continental (CLCS) through the Secretary General of the United Nations on 11 May, 2009.
- As a part of the Indian delegation, I made scientific and technical presentation of India's claim area (~0.6 million square kilometers) before the CLCS at UN, New York on 16 August 2010.

The forgoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed / distorted.

**Date** : 06 Nov. 2022

**Place** : IIT Dhanbad



**(A.K. Chaubey)**