

1. **Name:** DR. Prosanta Kumar Khan
2. **Father's Name:** Late B.N. Khan
3. **Broad Area of Specialization:** Pure and Applied Geophysics
4. **Current Area of Research:** Solid Earth Geophysics, Seismology, Seismotectonics, Geodynamics, Gravity, Earthquake Hazard, Mitigation & Prediction
5. **Subjects of Teaching: (PG & M.Tech. Courses)** Theoretical and Observational Seismology, Computational Seismology, Geodynamics and Geothermic, Petroleum Exploration Geophysics, Gravity and Magnetic Prospecting
6. **Nationality:** Indian
7. **Religion:** Hindu
8. **Sex:** Male
9. **Date of Birth:** Feb. 02, 1966
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12. **SC/ST/OBC/GEN:** General



13. Educational Qualification:

Sl. No.	Exam. Passed	University/Institute	Year of Passing	Subject	Class
i)	M.Sc. Tech. in Applied Geophysics	Indian School of Mines	1992	Pure & Applied Geophysics	1 st Class
ii).	B. Sc. (Hons.) in Physics	University of Calcutta	1987	Physics (Hons.)	2 nd Class

14. Details of Ph. D.:

Degree	University/Institution	Date of Submission	Date of Award	Title of the Work
Ph. D.	Indian School of Mines	October 31, 1997	January 03, 2000	Evolving Trends of Seismicity in India and its Neighborhood

15. Details of R & D Project Handled:

Funding Agency	Tenure	Working place	Title of the project	Outlay (lakhs)
Ministry of Earth Sciences, GOI, New Delhi	2009 – Contd.	Indian School of Mines	Monitoring and study of local seismicity of the Eastern Indian shield region (PI)	11.15
Ministry of Earth Sciences, GOI, New Delhi	2009 – Contd.	Indian School of Mines	Finite element stress modeling of the subducting Indian lithosphere and the overlying structures in northeast part of India (PI)	16.19
Minor Research Project, MHRD, GOI	2007-2009	Indian School of Mines	Mapping of seismic b-value and its correlation with Bouguer gravity anomaly over the northeast India	0.40
Council of Scientific & Industrial Research, HRD Group, Govt. of India, New Delhi	2004 - 2007	Indian School of Mines	Poly-phase Tertiary Development of the Himalayas and Surrounding Regions Implications for the Recent Trends of Seismicity in India	~8.00
Deptt, of Science & Technology, Govt. of India, New Delhi	2001 - 2004	Indian School of Mines	Evolving seismicity in India and its adjoining regions in the 20 th century	9.12
Deptt, of Science & Technology, Govt. of India, New Delhi	1997 - 2000	IIT Roorkee	Digital Telemetered Seismic Network in the Kumaun Himalaya	~120.00
Deptt, of Science & Technology, Govt. of India, New Delhi	1997 -2000	IIT Roorkee	Modelling of Earthquake Source and Earth Structure in the Garhwal Kumaun Himalaya Region using Broadband Seismic Data	~20.00
UGC, Govt. of India, New Delhi	1992 –1997	Indian School of Mines	Seismotectonic modeling of India	~2.00

16. Research/Teaching Experience:

Research Experience: ~17 years

Post-doc Experience: ~10 years

Teaching Experience: ~5 years

17. Research Interest:

- Earthquake source kinematics and dynamics
- Seismotectonic modeling

- Lithospheric deformation vis-à-vis evolution of tectonic elements on the Earth's surface
- Kinematics of Plate driving forces
- Origin and evolution of the lithospheric stress field
- Subduction dynamics vis-à-vis back-arc tectonics
- Earthquake Hazard Assessment and Mitigation
- Earthquake prediction

18. Major Achievements in Research:

- Revolutionary geodynamic model for the Andaman outer arc-back arc areas was established.
- A seismotectonic model for widening the Himalayan orogeny towards western part in Pakistan was established.
- Revolutionary geodynamic model for the occasional incidences of great damaging earthquake in northwest India was established.
- A hypothesis for mega-earthquake along subduction margin around the world was uncovered through an evolutionary strain-hardening model.
- Controls on 26 December 2004 off Sumatra mega-event by plate driving forces was established.
- Long-awaiting problem of opening of Andaman Sea was successfully explained through two-phase modeling of the region between Sumatra and Andaman along the eastern subduction margin of India.
- Episodic late Tertiary episodic development of Myanmar region was successfully explained through dip-angle variation of descending Indian lithosphere. Both these study pertain to the understanding the dynamics of the Earth's interior and their surface expression including the origin and evolution of the lithospheric stress field.
- Installation of Duplex Telemetry Seismic Network in the Kumaun Himalaya under the Himalayan Seismicity Programme of Department of Science & Technology, Govt. of India, New Delhi.
- The origin of the deeper part of the subducting lithospheres below Hindukush and Pamir were delineated.
- A causal relationship between Bouguer gravity anomaly and b-value was established for the Shillong Plateau area. In the same study, the configuration of the descending Indian lithosphere below the Myanmar and Himalaya in northeast India was delineated.

19. Distinctions/Prizes/Awards/Medals/Honours:

- *"Pool Scientist, 2004"*, Council of Scientific & Industrial Research, HRD Group, Govt. of India, New Delhi
- *"Young Earth Scientist, 2000"*, Science & Engineering Research Council, Department of Science & Technology, Govt. of India, New Delhi.
- **Membership:** Life member of ISET (Indian Society of Earthquake Technology), Roorkee IIT, IGC (Indian Geological Congress), IGU (Indian Geophysical Union), NGRI, Hyderabad and Fellow of Earth Sciences, Birbal Sahani Institute, Lucknow.
- **Awards:** Adjudged one of the best four participants in DST sponsored 2nd SERC School (SEP-II) during April 14 to May 4, 1994 held at Banaras Hindu University, Varanasi.

- **Awards:** Adjudged one of the best four participants in DST sponsored 3rd SERC School (SEP-III) during Sept. 23 to Oct. 12, 1996 held at Indian School of Mines, Dhanbad.
- **Incharge** of the Broadband Seismological Observatory, Indian School of Mines, Dhanbad.

20. Vocational Training (PG level):

Sl. No.	Period	Details of Training
i)	4 weeks, 1989	Geological field training in Jharia-Barakar region, Jharkhand
ii)	3 weeks, 1990	Geophysical field training in Topchanchi area, Jharkhand
ii)	2 weeks, 1991	2-D & 3-D seismic data acquisition at Diamond Harbour, ONGC, West Bengal
iii)	3 weeks, 1991	Seismic data processing at Regional Computer Centre, ONGC, Calcutta, West Bengal

21. Professional Training:

Sl. No.	Period		Details of Training
	From	To	
i)	April 14, 1994	May 4, 1994	2 nd SERC (Science & Engineering Research Council) School, SEP-II (Seismology & Earthquake Processes) held at Banaras Hindu University, Varanasi, funded by DST, New Delhi, Govt. of India.
ii)	Sept. 23, 1996	Oct. 12, 1996	3 rd SERC School, SEP-III (Computational Seismology) held at Indian School of Mines, Dhanbad, funded by DST, New Delhi, Govt. of India.
iii)	April 12, 1999	Apr. 30, 1999	4 th SERC School, SEP-IV (Strong Motion Seismology), held at University of Roorkee, Roorkee, funded by DST, New Delhi, Govt. of India.
iv)	Dec. 9, 1996	Dec. 20, 1996	CDC/IDNDR workshop on "Seismic and other Geophysical Instrumentation" organized by Committee for Developing Countries (CDC) of the International Association of Seismology and Physics of the Earth's Interior (IASPEI) held at National Geophysical Research Institute, Hyderabad, India.
v)	May 7, 1999	May 19, 1999	Training organized by Nanometric's Engineers, Canada, on "Data Acquisition and Processing using Nanometric's Softwares" held at Kumaun University, Nainital, India.
vi)	Sept. 03, 2001	Sept. 22, 2001	Workshop/Lecture on "Broadband Seismology" held at National Geophysical Research Institute, Hyderabad, India.

22. Employment Record

Sl. No.	Name and Addresses of Employer	Post Held	Ad-hoc/ Regular/ Temp./ Permnt.	Period		Gross Salary	Nature of Duties
				From	To		

i)	Indian School of Mines University, Dhanbad, Jharkhand	Assistant Professor	Regular	Feb. 15, 2007	Continued	Rs. ~34,000/- (Basic: 12840/-)	Research, Teaching and Development
ii)	Council of Scientific and Industrial Research, New Delhi	Scientist	Temp.	Feb. 17, 2004	Feb. 16, 2007	Rs. 16980/- (Basic: 8550/-)	Research and Teaching
iii)	Deptt. of Science and Technology, New Delhi	Scientist	Temp.	Jan. 23, 2001	Jan. 22, 2004	Rs. 15000 /- (Basic)	Research and Teaching
iv)	Deptt. of Science and Technology, New Delhi	Fellow 'A'	Temp.	Nov. 06, 1997	Sept. 30, 2000	Rs. 9000/- (Basic)	Research

23. Extracurricular Activity:

University Blue in football during the period from 1989 to 1994.