

## CURRICULUM VITAE



1. NAME : **DR. UMA GHOSH**
2. HUSBAND'S NAME : **SRI ANATH BANDHU PAL**
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4. NAME OF THE INSTITUTION : **SIDDHINATH MAHAVIDYALAYA**
5. DESIGNATION : **PROFESSOR (PRINCIPAL)  
(MATHEMATICS)**
6. ADDRESS OF THE INSTITUTION : **SHYAMSUNDARPUR PATNA,  
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7. DATE OF BIRTH : 03 - 12 - 1962
8. SEX : FEMALE
9. NATIONALITY : INDIAN

10. EDUCATIONAL QUALIFICATION :  
( From Post-graduation onwards )

EXAMS PASSED ( MAIN SUBJECT)	BOARD/UNIVERSITY	YEAR	DIVISION/CLASS
M. SC. (APPLIED MATH.)	University of Calcutta	1985	1 <sup>ST</sup> Class
M. PHIL. (APPLIED MATH.)	-Do-	1987	1 <sup>ST</sup> Class
PH. D. (APPLIED MATH.)	-Do-	1995	
OTHERS (DIPLOMA/CERTIFICATE ETC. )	(1) Passed Joint CSIR- UGC JRF Exam. (2) One Orientation and two Refresher courses from ASC, CU.	1988  1999 2001 & 2003	

11. RESEARCH EXPERIENCE :

DURATION	TITLE OF THE PROJECT/WORK	JUNIOR RESEARCH FELLOWSHIP FROM
1987-1988	TECHTONOPHYSICS MODEL	CSIR
1989-1993	MATHEMATICAL MODELING OF THEORETICAL SEISMOLOGY	UGC (1989-1990)

12. TITLE OF THE THESIS :

- a. M.PHIL. : “Modeling of aseismic surface movement in seismically active regions”.
- b. PH. D. : “Some aspects of the modeling of earthquake processes in seismically active regions”.

13. RESEARCH PROJECTS CARRIED OUT ( As Principal Investigator ) :

PROJECT	TITLE OF THE PROJECT	NAME OF THE FUNDING AGENCY	DURATION AND AMOUNT	REMARKS
Minor Research Project	Mathematical modeling of earthquake processes in seismically active regions	UGC	Two Years Rs. 50,000 /-	Final report has been submitted on August 2004
Major Research Project	Mapping b-value, fractal dimension and energy release in seismically active regions of the Western Himalaya	D S T	Three Years Rs.2,85,000/-	Final report has been submitted on December 2007
DST – RFBR**	Deep Structure and Seismicity in Southeast Asia: Northeast India and Andaman-Nicobar region	DST & Russian Academy of Sciences	2011-2013 Rs.9,82,000/-	** Worked as an Indian Scientist
Minor Research Project	Seismic Hazards in the North-eastern Himalayas: Evaluation of Seismicity and Seismic Characteristics	UGC	Two Years Rs.2,00,000/-	Final report has been submitted on April 2016

#### 14. EXPERIENCE PROFILE

Office or Institution where employed	Date of Joining	Date of Leaving	Cause of Leaving	Post held	Nature of Works
Geological Survey of India	01.01.91	31.08.95	To join Lalbaba College as Lecturer (Math.)	Assistant Geophysicist (Through UPSC)	Research Work and Administrative Work
Lalbaba College, Belur Math , Howrah	01.09.95	30.09.18	To join Siddhinath Mahavidyalaya as Principal	Associate Professor	Teaching & Research Work.
Siddhinath Mahavidyalaya	01.10.18	continuing	N. A.	Professor (Principal)	Teaching, Research Work and Administrative Work

#### 15. OTHER ACADEMIC ACTIVITIES:

1. Acted as Supervisor of Dr. Krishanu Manna (**Ph.D Scholar**) for award of the Ph. D. degree in Applied Mathematics under University of Calcutta. (Thesis entitled “A Study on the Ground Deformation During Aseismic and Seismic Periods and Associated Fault Movement in Seismically Active regions”)
2. Acted as Viva Voce Examiner of the Ph. D. Thesis entitled “ Delineation of Three Dimensional Crustal Structure and Seismogenic Faults in NE India Region – A Detailed Analysis of Permanent Microearthquake Network Data” submitted by Pankaj Mala Bhattacharya (GSI) for the Ph.D. (SC.) degree of JADAVPUR UNIVERSITY in 2006.
3. Acted as Examiner ( including Viva Voce ) of the Ph. D. Thesis entitled “ Seismic Diffraction Tomography and Modelling of Subsurface Imaging” submitted by Mahasweta Mahapatra for the Ph.D. (SC.) degree of NIT, DURGAPUR in 2013.

4. Acted as the Supervisor during Internship of three students of Applied Geophysics, ISM, Dhanbad at Lalbaba College under my guidance in 2013.
5. Acted as Convener and Chaired a session in the 9<sup>th</sup> General Assembly of Asian Seismological Commission in Ulaanbaatar, Mongolia, 2012.
6. Delivered lectures at Institute of Seismological Research (ISR) as part of Guest Lecture Program of Indian Society of Earthquake Science (ISES) and ISR on “ Mathematical Seismology” in 2013.
7. Acted as reviewer of research papers submitted in different International/National Journals:
  - i) “ Probabilistic Models for forecasting earthquake in North-east region of India” – submitted to Bulletin of the Seismological Society of America (2014).
  - ii) “ Imaging b-value variation beneath the Pamir-Hindukush region” - submitted to Bulletin of the Seismological Society of America (2014).
  - iii) “ On investigations of the observed thermal anomaly in earthquake precursors: A case study from the 1993 Latur earthquake prone area of India” – submitted to the International Journal of Geosciences (2015).
  - iv) “ Influence of the 25<sup>th</sup> April Nepal earthquake in the Guttenberg – Richter relation of the Nepal Himalaya region” – submitted to Current Science (2015).
  - v) “ Stochastic earthquake Interevent time modeling from exponentiated Weibull distributions” – submitted to Natural Hazards ( 2016).

#### 16. LIST OF PUBLICATIONS :

1. Ghosh , U. , Mukhopadhyay , A. and Sen , S. (1992a), On two interacting creeping vertical surface-breaking strike-slip faults in a two-layer model of the lithosphere, *Phys. of the Earth & Planetary Interiors*, 70 , 119-129.
2. Ghosh , U., Mukhopadhyay, A. and Sen , S. (1992b), On two aseismically creeping and interacting vertical strike-slip faults – one buried and the other extended up to the surface in a two-layer model of the lithosphere , *Bull. Ind. Soc. Earth. Tech.* , No. 313 Vol. 29 ,No. 1 , March 1-15.

3. Ghosh , U. , Mukhopadhyay, A. and Sen , S. (1993), On stress accumulation in a two-layer model of the lithosphere and interaction between two locked vertical surface-breaking strike-slip faults, *J. Himalayan Geology* , 4(2) , 299-304.
4. Roy, S., Ghosh, U., Hazra S., and Kayal, J.R. (2011): Fractal dimension and b-value mapping in the Andaman-Sumatra subduction zone, *Nat Hazards*, Vol 57(1), pp 27-37, DOI 10.1007/s11069-010-9667-6.
5. Ghosal, A., Ghosh, U. and Kayal, J.R. (2011): A detailed b-value and Fractal dimension study of the March 1999 Chamoli earthquake (Ms 6.6) aftershock Sequence in Western Himalaya, *Geomatics, Natural Hazards and Risk*, DOI: 10.1080/19475705.2011.627380.
6. Ghosh, U. and Sen, S.(2011): Stress Accumulation Near Locked Buried Faults in the Lithosphere-Asthenosphere System, *IFRSA's International Journal of Computing*, vol1, 4, 786-795 (ISSN (Print):2231:2153, ISSN (Online):2230:9039).
7. Kayal, J.R., Das, V. and Ghosh, U. (2012): An Appraisal of the 2001 Bhuj Earthquake (Mw 7.7, India) Source Zone : Fractal dimension and b-value mapping of the aftershock Sequence, *Pure Appl. Geophys.*, DOI 10.1007/s00024-012-0503-7.
8. Roy, S., Ghosh, U., Hazra S., and Kayal, J.R. (2012): Fractal dimension and b-value mapping before and after the 2004 mega thrust earthquake in the Andaman-Sumatra subduction zone, *Geophysical Monograph Series*, Vol. 196, pp. 55-62.
9. Ghosh, U. and Sen, S.(2016): Interaction Creeping Buried Vertical Strike-Slip Faults in a two Layer Model of the Lithosphere, *IFRSA's International Journal of Computing*, vol6, 1, 13-23 (ISSN (Print):2231:2153, ISSN (Online):2230:9039).
10. Ghosh, U. and Sen, S.(2016): Stress Accumulation Near Locked Buried Faults – One surface Breaking, other Buried - in an Elastic layer Overlying a Visco-Elastic Half Space, *IFRSA's International Journal of Computing*, vol6, 1, 24-32 (ISSN (Print):2231:2153, ISSN (Online):2230:9039).
11. Bhttacharya, P. and Ghosh, U. (2017): Seismic Hazards in the North – Eastern Himalayas: Evaluation of Seismicity and Seismic Characteristics, *AARJSH*, Vol. 4, Issue 4, 13-33, ISSN: 2278 – 859X
12. Manna, K., Sen, S., and Ghosh, U. (2019): Interactions among Finite Rectangular Faults in a Viscoelastic Half-Space, *IOSR Journal of Applied Geology and Geophysics*, e-ISSN: 2321–0990, p-ISSN: 2321–0982. Volume 7, Issue 5 Ser. II (Sep. – Oct. 2019), PP 33-42.

13. Ghosh, U. (2020): Seismic Characteristics and Seismic Hazard Assessment: Source Region of the 2015 Nepal Earthquake Mw 7.8 in Central Himalaya, pure Appl. Geophys., Vol 177, No. 1 ( ISSN 0033-4553, DOI 10.1007/s00024-019-02318-w ).
14. Ghosh, U. and Bhattacharya, P. (2021): Seismic Hazards Assessment in the Eastern Himalayas Region, American Journal of Environmental Science and Engineering. Vol. 5, No. 4, 2021, pp. 95-103. doi: 10.11648/j.ajese.20210504.13

Conference Paper (not reviewed)

1. Roy, Sohini, Ghosh, U., Hazra S. and Kayal, J R., 2011. Fractal dimension and b-value mapping in the Andaman-Sumatra subduction zone, **Proceedings on the International Seminar on Recent Advances in Geophysics**, Indian School of Mines, Dhanbad, India, January 11-13, **pp.319-322.**

**17. LIST OF INTERNATIONAL TRAINING COURSE/WORKSHOP  
ATTENDED ( FROM 2010 ):**

1. Attended the International Training Course of Seismic Hazard and Disasters in Asia in 2010 (HANOI, VIETNAM).
2. Attended International Workshop on Earthquake Precursor Studies-Scenarios and future directions in 2010 (HYDERABAD).
3. Attended Advanced School on Megathrust Earthquakes and Tsunami in 2014 ( ICTP, TRIESTE, ITALY ).

**18. LIST OF INTERNATIONAL/NATIONAL SEMINERS/CONFERENCES  
ATTENDED ( PRESENTATION OF RESEARCH PAPERS) (FROM  
2010):**

1. The 8<sup>th</sup> General Assembly of Asian Seismological Commission (ASC 2010) – Hanoi – Vietnam.
2. International Conference on Frontiers in Applied Mathematics and its Computational Aspects (2011) – Kolkata, India.
3. IUGG 2011 General Assembly (2011) – Melbourne, Australia.
4. The 9<sup>th</sup> General Assembly of Asian Seismological Commission (ASC 2012) – Ulaanbaatar, Mongolia.
5. UGC Sponsored National Seminar on Environment, Resources & Development (2013) – Howrah, India.
6. The Regional Conference on Geoinformatics for Early Warning of Disasters with Special Emphasis on NE region (2014) – Shillong, India.
7. The 10<sup>th</sup> General Assembly of Asian Seismological Commission (ASC 2014) – Makati City, Philippines.
8. IUGG 2015 General Assembly (2015) – Prague, Czech Republic.
9. The 4th International Conference on Continental Earthquakes (2018) – Chengdu, China.
10. IUGG 2019 General Assembly (2019) – Montreal, Canada.
11. IUGG 2023, 28th General Assembly (2023) – Berlin , Germany.

**19. ACADEMIC/ADMINISTRATIVE RESPONSIBILITY AS  
ASSOCIATE NCC OFFICER (ANO):**

Completed Pre-Commission Course and Awarded Grade – A at NCC Women OTS, Gwalior in 1997.



NCC CAMP ATTENDED (FROM 2010-11):

- i) Attended CATC camp at Kanchrapara in 2011.
- ii) Attended CATC camp at Vidhya Nagar in 2012.
- iii) Attended NIC camp at Shilchar, Assam in 2013.
- iv) Attended CATC(LRD) camp at Fort William in 2015.
- v) Participated in International Day of Yoga On 21 Jun, 2015.
- vi) Attended CATC camp at Uttarpara in 2015.
- vii) Attended CATC(Yoga Day Camp) camp at Fort William in 2016.
- viii) Attended CATC (NCC Day Camp) camp at Fort William in 2016.

**20. ACADEMIC/ADMINISTRATIVE RESPONSIBILITY AS  
CO-ORDINATOR, NSOU, LALBABA COLLEGE STUDY CENTRE:**

Carried out all Academic and Administrative responsibilities of Lalbaba College Study Centre, Netaji Subhas Open University, from 2005 - 2017 .