

RESUME

Name : Dr. Rangoli Bhatnagar

Date Of Birth : 12 Feb.1981

Father's name : Dr. P.K. Bhatnagar

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Educational Qualification :

Name Of Examination	Year	Division	Board/ University	Subjects	Percentage
Secondary	1996	I	C.B.S.E.	As prescribed	81.4 %
Senior Secondary	1998	I	C.B.S.E.	Phys.,Chem.,Maths Comp.Sc., Eng.	72.6 %
B.Sc. (Hons.)	2001	I	Delhi University	PHYSICS	69.26 %
M.Sc. (Electronics Specialization)	2003	I	Delhi University	PHYSICS	62.6 %
UGC – CSIR - NET	June 2007	QUALIFIED	--	PHYSICS	
Ph. D.	February 2011	AWARDED	Delhi University	PHYSICS	

Teaching Experience : 15 Yrs (approx.)

- Have taught as guest lecturer in three sessions Dec 2003 to March 2006 in **Rajdhani College**, University of Delhi. As **ad-hoc** from 12/02/2004 till the end of the session.
- Have taught for about a month in **Maitreyi College** from 25/11/2003 to 23/12/2003.
- Have taken 80 periods in **S.G.T.B. Khalsa College** from 22/11/2006 to 08/03/2007.
- Have taught in **Kirori Mal College** on ad hoc basis from 23/11/07 till the 19/7/08 session and from 31/07/09 till end of session.
- Have taught in **Miranda House** College on ad hoc basis from 21/07/08 till 21/7/09.
- Have taught in **Ramjas College** on ad hoc basis from 30/07/10 till 21/11/2022.
- Currently teaching in Hansraj College on Permanent Basis since 22/11/2022

Publications: 9 papers in International Journals

2 Articles in Books

Participated/ Presented papers in 21 National-International Conferences/Workshops/ Symposia

Computer Education :

Languages: PASCAL, C, C++, FORTRAN

Packages: MS - OFFICE

Platforms: MS - DOS, Windows 95/98, XP, Windows 7.

Hobbies and Interests: Net surfing, Reading, Painting, Sketching, Music.

Active Participation in College and University activities like Seminars, Workshops, Invited Talks, National and International Conferences, Student activities, Fests, conducting examinations.

Permanent Address: D – 214, ILA Apartts, Vasundhara Enclave, Delhi – 96.

Address for correspondence: 142, State Bank Colony, Delhi – 110009.

TEACHING EXPERIENCE

College	University	Classes	Date	Position	Duration
Maitreyi College	University of Delhi	B.Sc.(H) Phy, I, II	25-11-2003 to 23-12-2003	Guest	1 month
Rajdhani College	University of Delhi	B.Sc.(H) Chem, I, B.Sc. (G) Elect, Grp A, Comp Sc. (III)	04-12-2003 to 11-02-2004	Guest	2+ months
Rajdhani College	University of Delhi	-same- and B.Sc. (H) Elect, III	12-02-2004 till the end of session (30-4-2004)	Ad hoc	2.5+ months
Rajdhani College	University of Delhi	B.Sc. (H) Elect, II B.Sc. (G) Elect, Grp A, Comp Sc. (III),	31-07-2004 till the end of session	Guest	8 months
Rajdhani College	University of Delhi	B.Sc. (G) Elect, Grp A, Comp Sc. (III), B.Sc. (H) Elect, I, II	04-08-2005 till the end of session	Guest	7.5 months
S.G.T.B. Khalsa College	University of Delhi	B.Sc. (H) Maths, I, and II, B.Sc. (G) Elect, Grp A, Comp Sc. (III)	Have taken 80 periods from 22-11-2006 to 08-03-2007	Guest	3.5 months
Kirori Mal College	University of Delhi	B.Sc (G) Physics II, B.Sc. (G) Comp.Sc. II, B.Sc. (H) Physics II, B.Sc. Analytical Chem III.	23-11-2007 till 19-07-2008	Ad hoc	8 months
Miranda House	University of Delhi	B.Sc. (H) Phy. I, B.Sc. (H) Chem I, B.Sc. APS, LS, I	21-07-2008 till 21-07-2009	Ad hoc	1 Yr.
Kirori Mal College	University of Delhi	B.Sc (Prog) PS, CS, LS, I and II, B.Sc. (H) Chem, I	31-07-2009 till 20-07-2010	Ad hoc	11.5 months
Ramjas College	University of Delhi	B.Sc. (Prog.) PS, APS, III Yr., B.Sc. (Prog.) Electronics, II Yr., B.Sc. (H) Chem. II Yr., B.Sc. (Prog.) PS, II Yr, B.Sc. (H) Physic, I Yr	30-07-2010 till 21-11-2022	Ad hoc	12 Yrs, 4 months
Hansraj College	University of Delhi	B.Sc. (H) Electronics, II Yr., B.Sc. (Physical Sc. With Chem and Comp.Sc.)	22-11-2022 till date	Permanent	1 Yr 5 M

Dr. Rangoli Bhatnagar

List of Publications

1. Prospects for lead free perovskite for photovoltaic applications and biological impacts: Challenges and opportunities, Vishnu Chauhan, Deepika Tripathi, Pooja Singh, Anita Sharma, Manoj Kumar Khanna, Rajesh Kumar, **Rangoli Bhatnagar**, Tarun Kumar, *Inorganic Chemistry Communications* 157 (2023) 111421, <https://doi.org/10.1016/j.inoche.2023.111421>.
2. Synergistic effect of graphene and ZnO nanorods in enhancing the performance of MEH-PPV based polymer light emitting diode. Khyati Gautam, Inderpreet Singh, **Rangoli Bhatnagar**, P.K. Bhatnagar, Koteswara Rao Peta. Elsevier, *Displays* 73 (2022) 102170, <https://doi.org/10.1016/j.displa.2022.102170>, 26 Feb 2022.
3. Hourly radiosonde observation of humidity and temperature and high resolution using the Equatorial Atmosphere Radar during convection over Koto Tabang, Indonesia in CPEA-II campaign, **R. Bhatnagar**, V. Panwar, Y. Shibagaki, H. Hashiguchi, S. Fukao, T. Kozu, and M. Takahashim, and S K Dhaka. *Indian Journal of Radio and Space Physics (IJRSP)*, Vol 42, Oct 2013, pp 277-291. **ISSN: 0367-8393 (print); 0975-105X (online)**
4. Long term variability in temperature in the upper and lower stratosphere over Indian and Indonesian region using Atmospheric Infrared Sounder (AIRS) observations. A Gupta, V Kumar, **R Bhatnagar** & S K Dhaka. *Indian Journal of Radio and Space Physics (IJRSP)*, Vol 42, Oct 2013, pp 298-308. **ISSN: 0367-8393 (print); 0975-105X (online)**
5. AIRS observations of seasonal variability in meridional temperature gradient over Indian region at 100hPa. A. Gupta, S. K. Dhaka, V. Panwar, **R. Bhatnagar**, V. Kumar, S.M. Datta, and S. K. Dash, *J. Earth Syst. Sci.*, 122(1), 201-213, Feb 2013. **Online ISSN: 1520-0469 Print ISSN: 0022-4928**
6. COSMIC Satellite Observations on seasonal variation of pressure at cold point tropopause and its relation with Tropical Easterly Jet (TEJ) over tropical region. V. Kumar, S K Dhaka, A. Jain, A. Chaudhary, **R. Bhatnagar**, A. Gupta, V. Panwar, N. Singh, and K. K. Reddy, *Indian Journal of Radio and Space Physics (IJRSP)*, Vol 42, Oct 2013, pp 292-297. **ISSN: 0367-8393 (print); 0975-105X (online)**
7. Characteristics of gravity waves generated in a convective and a non-convective environment revealed from hourly radiosonde observation under CPEA-II campaign, Dhaka, S. K., Bhatnagar, R., Shibagaki, Y., Hashiguchi, H., Fukao, S., Kozu, T., and Panwar, V., *Ann. Geophys.*, 29, 2259-2276, doi:10.5194/angeo-29-2259-2011, 2011.
8. Long-term variations in outgoing long-wave radiation (OLR), convective available potential energy (CAPE) and temperature in the tropopause region over India. R Sapra, S K Dhaka, V Panwar, **R Bhatnagar**, K Praveen Kumar, Y Shibagaki, M Venkat Ratnam and M Takahashi, *J. Earth Syst. Sci.* 120, No. 5, October 2011, pp. 807–823. **ISSN: 0253-4126.**
9. Influence of Large scale variations in Convective Available Potential Energy (CAPE) and solar cycle over temperature in the tropopause region at Delhi (28.3°N, 77.1°E), Kolkata (22.3°N, 88.2°E), Cochin (10°N, 77°E) and Trivandrum (8.5°N, 77°E) using radiosonde during 1980-2005. S.K. Dhaka, R. Sapra, V. Panwar, A. Goel, **R. Bhatnagar**, M. Kaur, T.K. Mandal, A.R. Jain, and H.-Y. Chun. *Earth Planets Space*, **62**, 319-331, 2010. **ISSN : 1343-8832**
10. Study of Temporal Variation of equatorial tropopause due to atmospheric waves in CPEA Campaign 2004 at Koto Tabang, Indonesia. S.K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, S. Fukao, T. Kozu, V. Malik, S. Malik, A. Dutta. *Adv. Geo Sciences*, Vol. **11**, 167-175, 2006. **ISBN-13: 978-981-270-988-2, ISBN: 981-270-988-6**

Papers/ Articles in Books

1. Large Scale Variation in Observed Convective Available Potential Energy (CAPE) Over Chennai, Kolkata, and Delhi using Radiosonde during 1989-2005, S.K. Dhaka, Vivek Panwar, Rupali Sapra and **Rangoli Bhatnagar**, In V. K. Anandan, editor, *Proceedings of the Eleventh International Workshop on Technical and Scientific Aspects of MST Radar*, pages 720-723. Macmillan India Ltd., 2007. ISBN No. 978-023-063-4145
2. Detection of Temporal Variation of Tropopause due to Atmospheric Waves using Radiosonde at Koto Tabang, Indonesia, **Rangoli Bhatnagar**, S.K. Dhaka, Y. Shibagaki, S. Fukao and T. Kozu, In V. K. Anandan, editor, *Proceedings of the Eleventh International Workshop on Technical and Scientific Aspects of MST Radar*, pages 650-653. Macmillan India Ltd., 2007. ISBN No. 978-023-063-4145

Papers presented in National/ International conferences/ workshops

1. V. Kumar, S. K. Dhaka, V. Panwar, A. Gupta, **R. Bhatnagar**, and M. Takahashi (2013), Influence of OBO on inter-annual variation tropopause temperature and height: Finding from COSMIC/ FORMOSAT-3 observations. *WCRP Regional Workshop on Stratosphere-Troposphere Processes and their Role in Climate* 1-3 April 2013, Kyoto, Japan.
2. S. K. Dhaka, V. Kumar, K. K. Reddy, V. Panwar, **R. Bhatnagar**, A. Gupta, and A. Jain (2012), New findings from COSMIC/ FORMOSAT-3 observations on tropopause thermal structure in the tropical region. *National Symposium on current trends in atmospheric research including communication and navigation aspects*, 21-22 December 2012, Vignana Bharathi Institute of Technology (VBIT), Aushapur, Hyderabad, India.
3. A. Gupta, V. Kumar, V. Panwar, **R. Bhatnagar**, S. K. Dhaka and Manohar Singh (2012), Long term temperature variability in the upper troposphere and lower stratosphere over Indian and Indonesian region using Atmospheric Infra-red Sounder (AIRS) satellite observations. *National Symposium on current trends in atmospheric research including communication and navigation aspects*, 21-22 December 2012, Vignana Bharathi Institute of Technology (VBIT), Aushapur, Hyderabad, India.
4. A. Gupta, S. K. Dhaka, V. Kumar, V. Panwar, and **R. Bhatnagar**, (2012), Meridional scan of Temperature gradient in upper troposphere over Indian tropical region using satellite observation. *Frontiers of atmospheric physics and technology*, 01- 03 March 2012 held at Yogi Vemana University, Vemanapuram, Kadapa, India.
5. V. Kumar, S. K. Dhaka, V. Panwar, A. Gupta, and **R. Bhatnagar** (2012), Latitudinal characteristic of cold point tropopause temperature by COSMIC FORMOSAT-3/ GPS technology. *17th National Space Science Symposium (NSSS-2012)*, PS1-8, 14-17 February, S. V. University, Tirupati, India.
www.nsss2012.com/uploads/8/4/5/4/8454166/technical_program1.pdf.
6. V. Kumar, S. K. Dhaka, V. Panwar, A. Gupta, and **R. Bhatnagar** (2011), Relationship between cold point tropopause (CPT) and corresponding water vapor pressure over Indian region during May 2007 using COSMIC data, *Atmospheric Remote Sensing Weather Prediction & Climate Change (ARWPCC-2011)*, 10-11 March 2011, S. V. University, Tirupati, India..
7. Simultaneous Observations of convective systems and emerged gravity waves and thermal structure in the troposphere and lower stratosphere using Satellite, EAR, and radiosonde over Indonesia during CPEA-II campaign, **R. Bhatnagar**, S. K. Dhaka, V. Panwar, Y. Shibagaki, H. Hashiguchi, T. Kozu, and M. Takahashi. Asia Oceania GeoSciences, 7th Annual Meeting and Geosciences World Community Exhibition, Hyderabad, 5-9 July 2010.
8. Relationship of solar variability and Convective available potential energy (CAPE) on temperature in the tropopause area over Indian/Indonesian region, S. K. Dhaka, V. Panwar, R. Sapra, and **R. Bhatnagar**, CAWSES India – Phase–II, science program workshop, **National Atmospheric Research Laboratory (NARL)**, Gadanki, India, 9-11 July 2009.

9. Findings and proposals for new experiments, S. K. Dhaka, **R. Bhatnagar**, and V. Panwar, Workshop on “Study of Atmospheric forcing and response (SAFAR)”, **National Atmospheric Research Laboratory (NARL), Gadanki**, India, 30-31 Jan 2009.
10. Radiosonde observations of generation and dissipation of Gravity Waves in the UTLS region over Indonesia during CPEA II Campaign 2005, S. K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, T. Kozu, and M. Takahashi, JSPS 5th University Allied Workshop on Climate and Environmental Studies for Global sustainability, Sunroute Plaza, Tokyo, Japan, 30 June – 3 July 2008.
11. Detection and characteristics of short wavelength gravity waves using hourly radiosonde flights during CPEA-II, S. K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, and H.-Y Chun, Asia Oceania Geosciences Society (AOGS) 2008, Busan, Korea, 16-20 June 2008.
12. Detection and characteristics of Gravity Waves observed over Koto Tabang, Indonesia, using hourly radiosonde flights. S.K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, T. Kozu, NSSS, Udhagamandalam (Ooty), 26 – 29 Feb, 2008.
13. Detection and Characteristics of Short Vertical Wavelength Gravity waves using hourly Radiosonde during CPEA – II Campaign over Indonesia. S.K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, T. Kozu. First International Workshop On The “Frontiers of Atmospheric Physics and Technology” at Deptt. Of Physics, Yogi Vemana University, Kadapa, Andhra Pradesh, India during 20 – 22 Feb, 2008.
14. Large scale variation and trends in Convective Available Potential Energy (CAPE) over Chennai, Kolkata, and Delhi using radiosonde, S. K. Dhaka, V. Panwar, R. Sapra, **R. Bhatnagar**, M. Kaur, IUGG XXIV General Assembly Perugia, Italy, July 2-13, 2007.
15. Study of temporal variation of equatorial tropopause due to atmospheric waves in CPEA Campaign 2004 at Koto Tabang, Indonesia, S. K. Dhaka, **R. Bhatnagar**, Y. Shibagaki, S. Fukao, and T. Kozu, presented in CPEA Symposium, Kyoto University, Kyoto, Japan, 20-23 March, 2007.
16. Temporal Variations in Tropopause detected due to atmospheric waves using radiosonde and radar. **R. Bhatnagar**, S.K. Dhaka, Y. Shibagaki. INCURSI – 2007, MA-10, NPL, Delhi from 21-24 Feb 2007.
17. Study of Temporal Variation of tropopause due to atmospheric waves. **R. Bhatnagar**, S. K. Dhaka, S. Malik, A. Dutta, A.R. Jain, T.K. Mandal, Y. Shibagaki. MST 11, pg 318, NARL Tirupati held from 11 – 15 Dec 2006. ISBN-13: 978-0230-63008-6, ISBN-10: 0230-63008-1.
18. Large and small scale variation in observed Convective Available Potential Energy(CAPE), tropopause height, and cold point temperature over 3 stations – Chennai (Madras), Kolkata (Calcutta), and Delhi using radiosonde, Vivek Panwar, S.K. Dhaka, **R. Bhatnagar**, and Rupali Sapra, presented in 11th International workshop on technical and scientific aspects of MST radar (MST11), NARL, Tirupati, page 363, 11-15 Dec, 2006. ISBN-13: 978-0230-63008-6, ISBN-10: 0230-63008-1.
19. Radar observations of evolution of convection systems and atmospheric gravity wave disturbances at Koto Tabang, Indonesia. S.K. Dhaka, Varun Malik, S. Malik, **R. Bhatnagar**. 8th user Scientist Workshop, NARL, Gadanki, 20 – 22 June 2006.
20. Variations in wind and temperature near tropopause (~ 17 km altitude) due to atmospheric waves. **R. Bhatnagar**, S.K. Dhaka, S. Malik, Anjan Dutta. Poster 2.7, **MATEIT**, D.D.U. College, University of Delhi, 22-25 March 2006.
21. General features of convection and gravity waves. S. K. Dhaka, S. Malik, Varun Malik, Amit Jain, **R. Bhatnagar** and D. Pramod XIV National Space Science Symposium, 2006, Andhra University, Vishakhapatnam, 9 – 12 February 2006.