

BIO – DATA

Name : Prof. (Dr.) Om Prakash Singh

Father's Name : Shri Lal Bahadur Singh

Present Postal Address : Department of Applied Sciences & Humanities
Institute of Engineering & Technology
Sitapur Road, Lucknow – 226021 (U.P.)
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Permanent Home Address : Village & Post Office: Barahi Newada, District: Varanasi – 221207 (U.P.)

Date of Birth : 10th January 1966

Place of Birth : Varanasi (U. P.)

Marital Status : Married

Nationality and religion : Indian, Hindu

Category : General

Educational Qualifications :

Exam. Passed	Board / Univ.	Year	Division	Mark (%)	Total	Subjects Offered
High School	U.P. Board	1980	Ist	73.8	369/500	Hindi, English, Math, Science, Sanskrit
Intermediate	U.P. Board	1982	Ist	62.6	313/500	Hindi, English, Math, Physics, Chemistry
B.Sc.	Gorakhpur Univ.	1984	Ist	64.4	580/900	Physics, Chemistry, Mathematics
M.Sc.	Gorakhpur Univ.	1986	Ist	62.9	755/1200	Physics (Electronics)
Ph.D.	Agra University	1991				

Summary of research and other activities

Number of research papers published : *International Journals* - 25
: *National Journals* - 20
: *International Conferences* - 08
: *National Conferences* - 06

Publications in Abstract Books of the Conferences : *International* -15
: *National* -03

Papers presented in conferences : *International (abroad)* - 05
: *International (India)* - 07
: *National* - 07

Papers presented in conferences (Invited Talk) : *International (India)* - 01

Number of conferences / workshops attended : *International* - 01
(without paper presentation) : *National* - 19

Convener of Conferences/ Workshops/School : *International* - 01

Course Coordinator of Workshops/School : *DST-SERC School* - 01

Organizing Committee Member in Conferences : *International* - 05
: *National* - 05

Books Published as Author	:	- 01
Articles / Chapters in Books	:	- 02
Completed Research Projects	:	- 08
Guidance of Ph.D. (degree awarded)	:	- 02
Guidance of Ph.D. (registered)	:	- 01
QIP/Training/Refresher courses/FDP etc. attended	:	- 14

Academic Distinction – Scholarship / Honors Awarded:

- Research Associateship (CSIR, New Delhi)
- Certificate of Merit for first position in M. Sc.
- National Merit Scholarship

Member of Technical / Professional Institutions:

- Solar Energy Society of India (Life Member)
- Indian Chapter of International Center for Theoretical Physics (Life Member)
- Indian Association of Physics Teachers (Life Member)
- Indian Society for Earthquake Science (Life Member)
- The Indian Science Congress Association (Life Member)

Particulars of Appointments / Experiences

(i) Teaching Experience:

S. N.	Post Held	Employer	Nature of duties	Pay scale	From	To	Total
1	Professor (Physics)	I.E.T., Sitapur Road, Lucknow	Permanent	Rs.54, 590/- (Rs.37400-10000-67000)	August 23, 2017	till date	01 yrs, 07 months
2	Professor (Physics)	R.B.S. Engg. Technical Campus, Bichpuri, Agra	Permanent	Rs.61, 450/- (Rs.37400-10000-67000)	July 01, 2012	August 22, 2017	05 yrs, 02 months
3	Associate Professor (Physics)	R.B.S. College, Bichpuri, Agra	Permanent	Rs.50, 720/- (Rs.37400-9000-67000)	Jan 01, 2010	June 30, 2012	02 yrs, 06 months
4	Reader (Physics)	R.B.S. College, Bichpuri, Agra	Permanent	Rs.13, 680/- (Rs.12000-18300)	Sept 20, 2005	Dec. 31, 2009	04 yrs, 03 months
5	Lecturer (Physics)	R.B.S. College, Bichpuri, Agra	Permanent	Rs.9, 925/- (Rs.8000-13500)	July 07, 1997	Sept 19, 2005	08 yrs, 02 months

*Participated in teaching at under-graduate level (B. Tech.) from time to time for five years (1992-1997) at Institute of Engineering and Technology, Sitapur Road, Lucknow during research work.

*** Head Examiner/ Deputy Head Examiner**

Worked as Head Examiner / Deputy Head Examiner in the evaluation works of Physics answer books and open elective papers of B. Tech. students of Dr. A.P.J. Abdul Kalam Technical University, Lucknow in different sessions.

(ii) **Research Experience:**

S.N.	Designation	Employer	Fellowship	From	To	Duration
1	Research Associate (CSIR, New Delhi)	I.E.T., Sitapur Road, Lucknow	Rs.2800-3300	07/7/92	06/7/97	5 years
2	Research Scholar (IREP Project)	do	Rs.1800/-	03/11/90	06/7/92	1 yr, 8m
3	Research Assistant (CST, U. P.)	do	Rs.1800/-	11/10/88	10/10/90	2yrs

Details of Research Experience (During Ph. D. work and Post-doctoral fellowship)

*Worked as CSIR Research Associate (direct research associate-ship) at Institute of Engineering and Technology, Lucknow on the project “New Correlation parameters for solar Radiation”. Published a number of research papers in various journals including four papers in International Journals of repute during this associate-ship.

*Worked as Research Fellow in a project on “Integrated Rural Energy Planning Program” (State Technical Back-up Unit, IET, Lucknow) sanctioned by Planning Commission, Govt. of India, New Delhi. Main objective of the project was research and development, to organize training for IREP officers of technical Back-up Units / NEDA officials / beneficiaries of rural energy systems etc., survey and maintenance of the systems already installed in different Districts of the State.

*Worked as research Assistance in the project entitled “Structure and Electronic Properties of Some Biological Molecules” sanctioned by Council of Science and technology, Lucknow.

*Involved in the preparation of various research schemes and project proposals to Central and State funding agencies.

Other Research Activities

For more than 15 years involved in the study of electromagnetic precursors associated with earthquakes using the following techniques:

a) GPS based Total Electron Content (TEC) and Scintillation measurements:

For this purpose, equipments were imported from USA and include an L₁/L₂ GPS antenna (Novatel’s Model GPS 702), a GPS receiver (Novatel’s Euro Pak-3M), relevant software, and connecting cables etc. The GPS receiver can locate up to 11 GPS satellite signals at two frequencies of 1575.42MHz and 1227.6 MHz. It measures phase and amplitude at 50-Hz rate and code/carrier divergence at 1-Hz rate for each satellite being tracked and computes TEC from combined frequencies pseudo range and carrier phase measurements. The primary purpose of the GPS receiver is to collect ionospheric scintillation and TEC data for all visible satellites.

b) Sub-ionospheric Perturbations on VLF Waves Associated with Earthquakes

For this purpose, monitoring of amplitude and phase of fixed frequency transmitter signals are done at the frequencies of 19.8 KHz (NWC, Australia), 21.4 KHz (Hawaii) and 24 KHz (Cutler, Maine) employing Abs. PAL receiver, electric and GPS antennas and pre-amplifiers. It is expected that the lower ionospheric perturbations, caused by earthquakes along the propagation paths of these signals in the earth ionosphere wave-guide, would affect the amplitudes and phases of the signals. We analyze the amplitude data of the 19.8 KHz signal and found amplitude depletions caused by moderate earthquakes along the propagation paths, which occurred in some cases, one day before the occurrence of the earthquakes.

c) Ionospheric Perturbations Caused by Some Major Earthquakes in India:

We have analyzed ionospheric f₀f₂ data for the periods corresponding to six major earthquakes that occurred in India during the last 15 years. These include Bihar-Nepal border earthquake (1988), Uttar Kashi earthquake (1991), Latur earthquake (1993), Jabalpur earthquake (1997), Chamoli earthquake (1999) and Bhuj earthquake (2001). We find that f₀f₂ is reduced between 20-40 % during pre and post-midnight hours, 0-15 days before the occurrence of the

earthquakes. We are planning to extend this work to cover the E-region ionosphere (F_0E 's) and simultaneous effect of earthquakes on both the E and F region of the ionosphere.

d) ULF Magnetic Field Anomalies Associated with Earthquakes:

A 3-axis search coil magnetometer is used for the study of ultra-low frequency (ULF) magnetic field anomalies associated with earthquakes. Recent observations have shown that the background magnetic field amplitudes of the three components undergo substantial enhancements prior to the occurrence of even moderate earthquakes in the Indian and the surrounding earthquake prone regions. The results have been supported by statistical analysis of the data extensively.

Research Projects Undertaken as PI / Co-PI

- a) Worked as Principal Investigator in MoES (Ministry of Earth Sciences, Govt. of India, New Delhi) (Seismology Division) Project: "A search for electromagnetic precursors of earthquakes from long period study of ground and ionospheric data". Co-PI- Dr. Birbal Singh (01 April 2016 – 22 August 2018), Grant / Amount Mobilized: Rs. 42.20 Lakhs.
 - b) Worked as Principal Investigator in DST Project: A study of Schumann resonance phenomena in the earth-ionosphere cavity. Co-PI- Dr. Birbal Singh (19 October 2011 – 18 October 2014), Grant / Amount Mobilized: Rs. 25.12 Lakhs.
 - c) Worked as Principal Investigator in MoES Project: Study of ULF/VLF electromagnetic precursors of earthquakes. Co-PI- Dr. Birbal Singh (01 February 2010 – 31 January, 2015), Grant / Amount Mobilized: Rs. 100.93 Lakhs.
 - d) Worked as Principal Investigator in MoES Project: A network mode study of Ultra Low Frequency (ULF) emissions associated with earthquakes. Advisor - Dr. Birbal Singh (01 April 2009 – 31 March, 2010), Grant / Amount Mobilized: Rs. 4.32 Lakhs.
 - e) Worked as Principal Investigator in DST Project: Study of Ionospheric Anomalies Associated with Earthquakes using GPS and Ground based data. Co-PI- Dr. Birbal Singh (07 February 2006 – 06 May 2009), Grant / Amount Mobilized: Rs. 20.79 Lakhs,
 - f) Worked as Co-Principal Investigator in DST Project: Remote sensing of the low latitude ionosphere and magnetosphere using whistler technique. PI- Dr. Birbal Singh (27 September 2008 - 26 September 2011), Grant / Amount Mobilized: Rs. 20.32 Lakhs.
 - g) Worked as Co-Principal Investigator in DST Project: Wave-particle interaction and precipitation in the low latitude atmosphere (16 August, 2004 – 15 August, 2007). PI- Dr. Birbal Singh, Grant / Amount Mobilized: Rs. 10.58 Lakhs.
 - h) Worked as Co-Principal Investigator in MoES Project: Study of Ultra Low Frequency (ULF) electromagnetic precursors of earthquakes (16 August 2001 – 15 August 2004). PI- Dr. Birbal Singh, Grant / Amount Mobilized: Rs. 19.44 Lakhs.
- (iii) **Ph. D. Produced** : 02
- Ph. D. Student Registered** : 02
- (iv) **Ph. D. Thesis Evaluation** : 03

(v) **Convener of the International Workshop**

Organized International Workshop on Seismo-Electromagnetics and Atmospheric Science (IWSE-AS 2010) at Faculty of Engineering and Technology, R. B. S. College, Bichpuri, Agra-283105, 16-18 November, 2010.

(v) **Course Coordinator of the DST-SERC School**

Organized SERC School on Seismo - Electromagnetics' held at Faculty of Engineering and Technology R.B. S. College, Bichpuri, Agra-283105) during February 06-26, 2012.

(vi) **Foreign Visits**

a) Visited the University of Electro-Communications, Chofu, Tokyo, **Japan** to attend International Workshop on Seismo-Electromagnetics (IWSE-2005) held during 15 - 17 March 2005.

b) Visited **Bandung (Indonesia)** to attend International Workshop on Seismo-Electromagnetic Phenomena: Recent Progress (IWSEP-2007) held during 6-8 November, 2007.

c) Visited **Singapore** to attend International Conference "Asia Oceania Geosciences Society (AOGS)-2009", SUNTEC, Singapore, 11-15 August, 2009.

d) Visited **Paris, France** to attend 2nd International DEMETER Workshop-2011, Paris, France during 10-12 October, 2011.

e) Visited China National Convention Centre (CNCC), **Beijing (China)** to attend "13th Annual Meeting - Asia Oceania Geosciences Society 2016 (AOGS 2016)", during 31 July – 05 August, 2016.

(vii) **Session Chair in Conference**

Chaired sessions in different International and National Conferences.

(viii) **Reviewer of Research Paper**

Reviewed research papers submitted to different International and National Journals.

(ix) **Developmental and Administrative Activities / Experiences**

S. No.	Designation	Working place	From	To	Total period
1	Chairman, Cell for students from J&K for Higher Studies	Dr. A.P.J. Abdul Kalam Technical Univ., Lucknow	04.06.2018	Till date	00 years, 09 months
2	Coordinator, TEQIP-III	Institute of Engineering & Technology, Lucknow	16.05.2018	Till date	00 years, 10 months
3	Chairman ISSACC	do	03.10.2017	Till date	01 years, 04 months
	Dean Student Welfare	Dr. A.P.J. Abdul Kalam Technical Univ., Lucknow	23.09.2017	Till date	01 years, 06 months
4	Dean, Faculty of Engg. & Faculty of Architecture	R.B.S. Engg. Technical Campus, Bichpuri, Agra	15.10.2013	22.08.2017	03 year, 10 months
5	Head, Dept. of Applied Sciences & Humanities	do	1999	22.08.2017	18 years, 08 months
6	Incharge, Guest House	do	July 2010	22.08.2017	07 yrs 01 months
7	Controller of Exam	do	July 2011	July 2014	03 years
8	Dean Student Welfare	do	July 2011	July 2014	03 years

9	<i>Proctor</i>	<i>do</i>	<i>July 2008</i>	<i>June 2009</i>	<i>01 year</i>
10	<i>Chief Warden (Hostel)</i>	<i>do</i>	<i>Dec. 2000</i>	<i>July 2008</i>	<i>07 years, 08 months</i>
11	<i>Warden (Hostel)</i>	<i>do</i>	<i>Oct. 1997</i>	<i>July-2007</i>	<i>09 years, 10 months</i>
12	<i>Games Incharge</i>	<i>do</i>	<i>Nov. 1998</i>	<i>October 2007</i>	<i>09 years</i>
13	<i>Asstt. Center Suptd. (Exam)</i>	<i>do</i>	<i>1998 2011</i>	<i>2004 2012</i>	<i>07 years, 06 months</i>
14	<i>Center Suptd. (Exam.)</i>	<i>do</i>	<i>Session 2006</i>	<i>Session 2009</i>	<i>03 years</i>
15	<i>Convener Construction Comm.</i>	<i>do</i>	<i>Feb. 2005</i>	<i>July 2008</i>	<i>03 years, 05 months</i>
16	<i>I/C Kho – Kho</i>	<i>R.B.S. College, Agra</i>	<i>Session 1998</i>	<i>Session 2002</i>	<i>05 years</i>
17	<i>I/C Night-Watchman</i>	<i>R.B.S. College, Agra</i>	<i>July 2008</i>	<i>July 2012</i>	<i>04 years</i>

(x) Convener/Member of Board of Studies of Basic Sciences (Physics, Chemistry & Mathematics):

Co-chair, BOS Physics (2018), Dr. A.P.J. Abdul Kalam Technical University, Lucknow

(xi) Committee Member, University Industry Interface Cell, Dr. A.P.J. Abdul Kalam Technical Univ., Lucknow