

CURRICULUMVITAE

Name:Prof.GowherBashir Vakil .

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Contact No:9419017887,7006569964 .

Designation: Professor .

Address for correspondence:Department of physics University of
Kashmir.

Date of Birth:21-07-1967 .

Field of Specialization:Microwave
Electronics

Atmospheric physics

Academic Qualification:

B.Sc.Non-MedicalUniversity of Kashmir:1988

M.Sc.PhysicsUniversity of Kashmir:1990

M.Phil.AstrophysicsUniversity of Kashmir:1993

Ph.D.Microwave ElectronicsUniversity ofKashmir:2002

Professional experience:

1. April, 1990- Oct. 1991 Contractual lecturer (1year).
2. Oct 1991-1992 Contractual lecturer 2yrs degree college Bemina.
3. March 1993-1997 Assistant Professor (University of Kashmir).
4. June, 2002- Senior Assistant Professor. (University of Kashmir).
5. September 2009 onwards Associate professor.
6. Research experience- 25 years.

Research publications:

International	15
National	10
Conference proceedings	20

Number of workshops/refresher/seminar attended:

<u>Workshops</u>	<u>6</u>
<u>Refresher courses</u>	<u>5</u>
<u>Seminars</u>	<u>8</u>

Number of PhDs/ M.Phil students:

Name of student	Degree	Status
AnsarHussain	MPhil	Completed
Fayaz Ahmed	MPhil	Completed
Fayaz Ahmad Najar	PhD	Completed
ShaistaAfreen	PhD	Thesis to be submitted
TasaduqHussain	PhD	In process
Zahida	MPhil	In process
Umer Lone	PhD	Synopsis work started

Number of Projects as PI/Co- PI:

PI	2
Co-PI	1

Number of projects submitted/Completed:3

Name of the project	Funding agency	Amount	Status
Role of Dielectrics and polymer materials on parabolic antennas.	UGC	6 lacs	Submitted
Harnessing of Wind Energy in Kashmir.	DST	20lacs	Submitted
Use of EMF in order to study atmospheric electricity	UGC SAP	5.50 lacs	In process
Study of parabolic antenna and its applications	UGC	0.5 lacs	Completed

Mesoscopic systems	DST	10 lacs	Completed
Course in experimental physics.	Indian Institute Of Sciences Bangalore.	9 lacs	Completed

National institutes visited:

1. Punjab University, Chandigarh.
2. IUAC, New Delhi.
3. Indian Institute Of Astrophysics, Bangalore.
4. TIFR, Mumbai.
5. University Of Mumbai.
6. University Of Hyderabad.
7. MANU University, Hyderabad.
8. Jamia Millia University.

Brief description of responsibilities in experiments:

Major responsibilities included:

- 1) Laboratory in charge from 1993– 2014 onwards where alotof new experiments were introduced.
- 2) Set Antenna lab where GainRadiationpatternof Horn antennas were studied.
- 3) Set High Performance Computing Laboratory which is only of its kind in entire J&K State.

Completed various projects in Msc Final which includes:

1. Designing and study of parabolic solar cookers.
2. Designing of uninterrupted power supply.
3. Designing of parabolic antenna for C and X band
4. Smart Antennas.

5. Fabricated C band parabolic antenna.
6. GSM and CDMA communications.
7. Designing of HPC computers
8. Gain Radiation Characteristics of a Dielectric Loaded Horn antenna
9. Global System for Mobile communications
10. Propagations Models
11. Informatics and Data Communications
12. Switch Mode Power Supply
13. Designing of pyramidal horn antenna

Subjects Taught:

- 1) Astrophysics.
- 2) Classical Mechanics.
- 3) Electronics.
- 4) Statistical physics.
- 5) Digital electronics.
- 6) Modern communication.
- 7) Informatics and Data Communications.
- 8) Microwave devices and circuits.
- 9) Introduction of new courses:
 - a) Modern communication.
 - b) Informatics and data Communications
 - c) Satellite Communications.

University assignments:

- 1) Actively participated in conducting first Entrance examination in the University of Kashmir.
- 2) Associated with number of confidential assignments in university and outside.

- 3) Nodal officer of DIQA for 2yrs
- 4) UGC (SAP) Co-coordinator (Presently)
- 5) JEST Coordinator.

Courses Attended:

1. Attended, General orientation course organized by Academic Staff College Jamia Millia University New Delhi and also presented a paper on Satellite Communication.
2. Attended a short term course on SMART ANTENNAS at NITTTR Chandigarh from 25th Sept- 29th 2006.
3. Attended, refresher course in computer application conducted by Academic Staff College University of Kashmir from 17th November 06-07th December 06.
4. Attended a refresher course in MULTICULTURISM (Multidisciplinary) conducted by Academic Staff College MANUU Hyderabad from 07-1-08 to 27-01-08.
5. Attended, refresher course in information technology conducted by academic staff College, University of Kashmir in 2009.
6. Attended a refresher course in Experimental Physics sponsored by Indian academy of science Bangalore 12th April to 27th April 2016.

Workshops Attended:

- 1) Attended three day national workshop titled RTOMAD-2005 and presented a paper on "Temperature Stabilized LED and LD Drive Circuits."
- 2) Attended Three days' workshop in astrophysics in the department of physics university of Kashmir.
- 3) Attended five days National workshop in Astrophysics conducted jointly by IUCAA and Pune and dept of physics university of Kashmir.

- 4) Attended Science congress (2010).
- 5) Attended KU-IUCAA work shop on Stellar astrophysics Sept 2013.
- 6) Attended workshop on mathematics and its application 5-11th Oct 2015.
- 7) Presented a paper in 11th JK science congress 2015.
- 8) Presented a paper in SEEDS seminar 2017.
- 9) Attended two days national workshop on teachers training sensitization.
- 10) Co-coordinator of refresher Course in collaboration with Indian academy of science Bangalore.
- 11) Co coordinator of UGC seminar GPP -2017.
- 12) Co coordinator of UGC seminar GPP II -2019.

Talks delivered:

1. Cellular communication ASC university of Kashmir.
2. Satellite communication ASC university of Kashmir.
3. Dielectric antennas Deptt of physics.
4. Chaired technical sessions in SEEDS 2017.
5. Books Published: A Hand Book on Designing of Parabolic Solar Cooker, Publisher Dilpreet Publishing House Ariana publisher & Distributors New Delhi 110018 (2016).

Conferences/ Seminars attended:

1. Instrumentation for the measurement of Atmospheric Electric Field at different high altitude sites in Kashmir valley (SEEDS 2017, Dept of Electronics, Kashmir University). ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
2. Study of Atmospheric Electric Field using Electric Field Mill: a review (GPP-1 2017, Kashmir University, 21-23 Oct 2017).ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
3. Correlation of Atmospheric Electric Field with Meteorological Parameters in Kashmir valley (J&K Science Congress, March 2018).ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
4. Initial results of measurements of atmospheric electric field as measured by the electric field mill EFM 100 (5th J&K Women's Science Congress, 27-29 March 2018).ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
5. Study of Atmospheric Electric Field using EFM 100 and its initial results (2nd international conference on recent development in applied science, engineering and management, 8-9 April 2018).ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
6. Instrumentation and initial results of the measurement of vertical electric field in Kashmir valley (SEEDS 2018, Dept of Electronics, Kashmir University).ShaistaAfreeen, Gowher Bashir, Nissar Ahmed.
7. Effect of lightning on atmospheric electric field (Recent trends in engineering, applied

science and management, Osmania university, 19 May 2018).ShaistaAfreen, Gowher Bashir, Nissar Ahmed.

8. Influence of aerosol concentration on fair weather atmospheric electric field (National conference on aerosol, air quality, climate change in Himalayan region, 21-23 October 2018).ShaistaAfreen, Gowher Bashir, Nissar Ahmed.
9. Study of atmospheric electricity as a proxy for air quality (One day workshop on Quantum computing and artificial intelligence, Cluster university, 20 March 2019).ShaistaAfreen, GowherBashir, Nissar Ahmed.
10. Change in global electric circuit and climate (Annual monsoon workshop and Prof. R D Sikka memorial national symposium, 28-30 March 2019).ShaistaAfreen, Gowher Bashir, Nissar Ahmed.
11. The global atmospheric electric circuit and climate change (International Conference on Nanotechnology for Better Living, National Institute of Technology, Srinagar, 7-11 April 2019).ShaistaAfreen, Gowher Bashir, Nissar Ahmed.
12. A Review On Multiferroic Bismuth Ferrite BiFeO_3 (International Conference on Nanotechnology for Better Living, National Institute of Technology, Srinagar, 7-11 April 2019).TasaduqHussain Mir, Gowhar Bashir Vakil, Shah AarifUllislam , , Applied Science Innovations, (2019) ,ISBN: 978-81-939516-0-6.

ConferencesPapers:

- 1) Study of Atmospheric Electric Field using EFM 100 and its initial results.ShaistaAfreen,

Gowher Bashir, Nissar Ahmed. (International Journal of Advance Research in Science and Engineering)

- 2) Effect of lightning on atmospheric electric field. Shaista Afreen, Gowher Bashir, Nissar Ahmed (under review).
- 3) Influence of aerosol concentration on fair weather atmospheric electric field. Shaista Afreen, Gowher Bashir, Nissar Ahmed. (Aerosol and Air Quality Research) (under review)
- 4) A Review On Multiferroic Bismuth Ferrite BiFeO_3 (International Conference on Nanotechnology for Better Living, National Institute of Technology, Srinagar, 7-11 April 2019). Tasaduq Hussain Mir, Gowhar Bashir Vakil, Shah Aarif Ulislam , , Applied Science Innovations, (2019) , ISBN: 978-81-939516-0-6

Awards:

Best Poster presentation Award in Annual monsoon workshop and Prof. R D Sikka memorial national symposium, 28-30 March 2019.

Publications:

1. Gain Radiation Characteristics of Dielectric loaded horn antennas APSYM Dec 2004 by K.K .S Jamwal, G.B. Vakil and I Maqbool.
2. "Temperature stabilized LED/LD Drive Circuits for optical fiber, Electronics Journal of Optics Vol-37 July 2008 by K.K.S. Jamwal, G.B. Vakil.
3. "Polymer waveguide disposable sensors in RTOMAD." K.K.S. Jamwal, G.B. Vakil.
4. Dielectric loaded Horn antennas and their Gain Radiation Characteristics" International Journal Of Physical Sciences Vol 22 page 409-412 2010 G.B. Vakil

and S.Masood.

5. “Dielectric and Polymer Material Properties” & characteristics For Microwave Antenna Applications journal of Ultra Scientist of Physical Sciences K.K.S.Jamwal,G.B.Vakil
6. “Symmetry Projection at finite temperature in Mesoscopic systems” paper held at Second J&K Science Congress July 25-27 2006 J.A.Shiekh.G.B.Vakil and I.Maqbool
7. Number projected HF B investigation of Atomic nuclei (Under submission) J.A.Shiekh,G.B.Vakil.
8. Systematic Investigation of Gamma Bands in Atomic Nuclei using Projected Shell model approach.(Submitted to APJ American physical journal).
9. Study of PDLC and PDCLC mixtures using various techniques, Journal of Optics vol 37 2008 Anita Kanwar, Gupta Suresh chandra J, Sanjay Patil and G.B.Vakil.
10. Triaxial projected shell model study of gamma-vibrational bands in even-even Erisotopes" J. A. Sheihk, G. H. Bhat, Y. Sun, G. B. Vakil, R. Palit Phys. Rev. C, (2008)
11. Triaxial projected shell model study of ^{134}Ce nucleus J. A. Sheihk, G. H. Bhat, Y. Sun, G. B. Vakil, and R. Palit
12. Role of spillover and illumination efficiency in case of parabolic antennas G.B.Vakil, S.M.Masood, S.A.Simnani and sheikh Ansar Ultra Scientist of Physical Sciences Vol 24 no 1B, 69-74 (2012)
13. Rainfall trends in Kashmir valley and their impact on atmospheric climate, gowher bashir and gowher bhat IJMAS Vol (01) no (04) july-aug 2014.

14. Growth and various characterizations of LiHSO₄ single crystal ,ferozmir,fayazNajarGowher basher and k asokan,Journal of Materials Sciences , Materials in Electronics Vol 5 2015
15. “SmFeO₃-Polyaniline Composite: Synthesis and Its Various Characterizations, Journal of Inorganic and Organometallic Polymers and Materials vol 26 2016.
16. Growth, theoretical and optical studies of lithium sulphate single crystalFayaz Ahmad Najar,Bashrat want and Gowher Bashir Vakil, Procee. of Intl Conference on Nanotechnology for Better Living Vol3 no 1 p 192
17. Parametric variations of precursors to earth using sensors ,Suresh Chandra, G.B VakilSEEDS
18. A study of instrument for the measurement of Atmospheric electric field at different altitude sites in Kashmir valley g b vakil,shaishtaafreenProceedings Of SEEDS 2017.
19. Studies on some opto-electrical parameters of ferroelectric lithium rubidium sulphate single crystals, Journal of Optics.
20. Infrared Raman electrical and thermal analysis of Lithiumsulphate mono hydrate single crystalJournal of Material Science in Electronics F.A Najar, G.B Vakil, B.Want Oct-2017,Vol28,Issue 19,PP14170-78.
21. Structural, optical and dielectric studies of lithium sulphate monohydrate single crystals F.A. NAJAR , G.B. VAKIL , B. WANT Journal of Material Science Poland Vol 35 issue 1pp18-31 March 2017,.
22. Study of atmospheric electric field using EFM 100 and its intial results ,shaistaafreen,gowherbashirvakil,nisarahmedInternational Journal of Advance Research in Science and Engineering Vol no 47Issue 04 pp 109-114 April 2018

23. Electrical and mechanical studies on ferroelectric lithium rubidium sulphate crystals F. A. Najar*, G. B. Vakil* and B. Want JOURNAL OF ADVANCED DIELECTRICS Vol) 1850015 (11 pages). 8, No. 3 (2018)
24. Optoelectrical Behavior of Ferroelectric Lithium Rubidium Sulfate Crystals, F.A. NAJAR, G.B. VAKIL and B. WANT, Journal of ELECTRONIC MATERIALS <https://doi.org/10.1007/s11664-018-6519-8> 2018, The Minerals, Metals & Materials Society.
25. First results of measurement of atmospheric electric field from Kashmir valley, North-western Himalayas G.b Vakil, Shaista Aafreen, Nisar Ahmad, Devendrasingh (under submission)
26. Growth and Various Characterization of Lithium Sulfate Monohydrate Single Crystal after Eu^{3+} and Tb^{3+} Ion Doping F.A Najar, Gowher.B Vakil, B.Want Mudassar M Naik sep 2020 <https://doi.org/10.1002/crat.202000075>

Major Achievements:

The undersign is among the founder members who started the concept of Entrance examination in the University of Kashmir in the early nineties. Moreover some of the achievements and collaborations which I have done are:

1. Co-ordinator of the first ever examination for ***Integrated Msc for TIFR Mumbai***
2. Coordinator for the all India ***JEST*** examination for 2 years.
3. Member for conducting first ever selection and examination for junior assistants in the University of Kashmir.
4. Member of selection committee for various post for service selection board for Kargil.

5. Co-ordinator of first ever *refresher course* in the history of the department of physics in *experimental physics* in collaboration with *Indian national academy science Bangalore*.

6. Conducted various national seminars in the department of physics.

I have also installed *HPC (High Performance Computing)* facility in the department of physics which is first of its kind in the whole of J&k state.

This *National facility* is now ready for inauguration where scholars from *physics, chemistry, geography, biology* can be benefitted, as before this they have to go outside state or country for higher computational analysis.

Contribution to Academic Administration:

In addition to the teaching and research at the Department, I have been very actively involved in the various administrative jobs at the Department which include framing the various curricula for graduate as well as post-graduate courses in physics. As such I am Member: Board of Post Graduate Studies, Department of Physics, University of Kashmir, Srinagar and Member, Board of Undergraduate Studies, University of Kashmir, and Srinagar. The assignment demands detailed deliberations on the academic requirements of the various courses offered at these two levels and then finalizing the course structure.

I held the charge of Nodal officer for more than three years.

Presently I am holding presently the charge of SAP (Co-ordinator) of the Department for last 2 years.

Research Interest:

The research group of my interest was initially fabrication and design of parabolic antennas for

various bands of application.

Recently I have shifted my research of interest to atmospheric electricity and for this an EMF100 has been installed at Gulmarg field station.

The above step has been taken in order to revive the Gulmarg field station lab which used to be one of the finest labs for studying atmospheric studies in early 70's.

The data and results which have been obtained till now have been encouraging and have been submitted for publication purposes.

(Dr.GowherBashir)