

**Dr. Kriti Batra, Assistant Professor, USBAS, GGSIPU**

**Present Position:** Assistant Professor, USBAS, GGSIPU

**Teaching/Research Experience:** Dr. (Mrs.) Kriti Batra joined, University School of Basic & Applied Sciences, as Assistant Professor in September 2006. She did her Masters in Physics (with specialization in Electronics) from Delhi University, in the year 1999. She did her Ph.D. on "Excitation and Ionization Studies of atomic Systems in external electromagnetic fields from Delhi University in the year 2005. She has published papers in international journals of good repute. She was a recipient of Junior Research Fellowship and Senior Research Fellowship from CSIR. She has a teaching experience of 12 years at GGSIP University. She has also served as Assistant Professor in Hans Raj College and Kirori Mal College, Delhi University before joining GGSIPU. She has research collaboration with Delhi University. Her research interests include study of quantum systems in external fields, collisional and radiative transitions, atomic-molecular physics, quantum heterostructures, quantum chemistry, interaction with lasers etc. In addition she has interests in Microcontrollers-embedded systems and has long experience in handling undergraduate Physics Laboratory at GGSIPU.

**Research Specialization:** Atomic and Molecular Spectroscopy, Quantum Heterostructures, (Theoretical Physicist), Working with Softwares like Matlab, Gaussian 16, Gauss view 6 etc.

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### **Publications**

1. "Linear and non linear optical absorption coefficients and refractive index changes of a spherical quantum dot in Kratzer confining potential", **Kriti Batra**, Vinod Prasad submitted for publication (March 2018).
2. "Finite difference calculation of optical properties of hydrogenic impurity in spherical quantum dot with parabolic confinement", **Kriti Batra**, Vinod Prasad, **Revista Mexicana de Física E**, 64(2018),7.
3. "Quantum Ring states in magnetic field and delayed half cycle pulses" **Kriti Batra**, Hira Joshi and Vinod Prasad , **Pramana-J.Phys** ,87, (2016),29.
4. "Dynamics of weakly bound atoms in the presence of two color fields and magnetic field" **Kriti Batra**, Poonam Silotia, Anjali Maan and Vinod Prasad, Conference Proceedings, NCRAMFT-2K15, 28-29 December 2015, held at BPIT, GGSIPU, Delhi.
5. "Control of Intersubband transitions in a Multiple Quantum Well System", **Kriti Batra** and Vinod Prasad, **Physica E**, 61, (2014) 171.
6. "Asymmetric effects on the optical properties of double-quantum well" , Poonam Silotia, **Kriti Batra**, Vinod Prasad, **Optical Engineering** 53, (2014), 027105.
7. "Absorption spectra of artificial atoms in presence of THz fields" , Bijender Dahiya, **Kriti Batra**, Vinod Prasad, published in World Academy of Science, Engineering and Technology, **International Journal of Mathematical, Computational, Physical, Electrical and Computer Engineering** Vol:6, No:4, (2012), 405.
8. "Atom in a femtosecond bichromatic laser field", **K.Batra**, R.Kundliya, Man Mohan, **Pramana**, 62, 31, (2004).

9. "Atomic dynamics with Chirped ultra short intense laser pulse" published in the international book "Universality and Diversity in Sciences" edited by M.Fedorov and W.Becker, World Scientific Press, Kluwer Plenum publishers, New York (2004) by **K.Batra**, N.Verma, A.Maan and M.Mohan.
10. "Collisional excitation of Na-Rydberg atoms" **K.Batra**, V.Prasad and M.Mohan **European Journal of Physics**, 20, 191-198 (July 2002).
11. "Two-photon ionization using elliptically polarized light" R.Kundliya, K.Batra and Man Mohan **Phys. Rev A** 64, 043404 (2001).
12. "Multi-Photon ionization of atoms using the pseudostate summation technique" .Kundliya, **K.Batra** and Man Mohan **Journal Physics B**. 34, 4083 (2001).

### **Workshops/Conferences/FDP Participation:**

1. Attended CSIR sponsored national workshop on "Recent trends in Computational Physics" (April 6-7, 2018) organized by Department of Physics and Materials Science & Engineering Jaypee Institute of Information Technology Sector 128, Noida 201304 – U.P.
2. Attended seminar on "Recent advances in atomic & molecular physics". Aryabhatta Science Forum of Physics Department of Deen Dayal Upadhyaya College, University of Delhi on September 19<sup>th</sup> 2017.
3. Attended Two Weeks Faculty Development Programme on "Multidisciplinary Approaches to Research from 15<sup>th</sup> July to 31<sup>st</sup> July 2017 conducted by USLLS, GGS Indraprastha University.
4. Attended Faculty Development Programme on "Data Science & Big Data Analytics" from June 12-16, 2017 conducted by ICT Academy and USICT, GGSIPU.
5. Completed "EMC Associate" Certification from DELL EMC on "Big Data Analytics" in June 2017.
6. Attended Green Educators' Network: 1st Knowledge Conclave for Colleges and Universities, organized by Centre for Science and Environment, January 28 – 29, 2016.
7. Work shop on "Light and Light –based Technologies" organized by Jaypee Institute of Information Technology Noida, 18<sup>th</sup> November 2015.
8. Special "Summer School-Interdisciplinary Refresher Course" conducted by UGC-ASC, Jamia Millia Islamia, from 6<sup>th</sup> May to 26<sup>th</sup> May 2015.
9. Short term course on "Cyber Threats and Computer Security Measures" conducted by USICT, GGSIPU and NITTR, Chandigarh, from 13<sup>th</sup> -24<sup>th</sup> April, 2015.
10. **Paper Presentation**-Dynamics of weakly bound atoms in the presence of two color fields and magnetic field, Conference Proceedings of NCRAMFT-2K15, 28-29 December 2015 held at BPIT, GGSIPU, Delhi
11. **Paper Presentation** -"Photo-excitation and ionization of weakly confined atoms in magnetic fields." Kriti Batra, Asish Tyagi and Vinod Prasad in "International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics, CDAMOP-2015, held at Department of Physics and Astrophysics, Delhi University, Delhi, 11<sup>th</sup> -14<sup>th</sup> March, 2015.
12. Participation in "Innovations in Composites for General Purpose to High End Applications" conducted by USBAS, GGSIPU Delhi, 17<sup>th</sup> -18<sup>th</sup> February, 2015.
13. Faculty Development Program on "Multidisciplinary Approach to Research", conducted by

USLLS, GGSIPU, 17<sup>th</sup> February, 2014 to 2<sup>nd</sup> March, 2014.

14. Paper presentation in “International Conference on NanoScience and Nano Technology”, ICNN, held at Department of Applied Physics, Baba Saheb Bhim Rao Ambedkar, University, Rae Bareilly, Lucknow, Nov, 18<sup>th</sup> -20<sup>th</sup>, 2013.
15. Seminar on “Atomic, Molecular and Optical Physics(AMOP-2013)”, held at Department of Physics and Astrophysics, University of Delhi, Delhi, September 30<sup>th</sup>, 2013.
16. “Accelerator based Atomic Physics workshop –Aug 8<sup>th</sup> -9<sup>th</sup>, 2012, at Inter University Accelerator Centre, Delhi.
17. “ Atomic, Molecular and Material Science using Low Energy Ion Beam Facility (LEIBF)” held at Inter University Accelerator Centre, Delhi from October 21<sup>st</sup> -22<sup>nd</sup> 2011.
18. “ International Conference on ‘Current Developments in Atomic, Molecular, Optical and Nano Physics CDAMOP-2011, held at Department of Physics and Astrophysics, Delhi University, Delhi, December 14-16, 2011, **Member of Organizing Committee** of the same.
19. Attended Faculty Development Programme (FDP) on ‘Managing Odds through Innovation and Mobile Communications’ conducted by Maharaja Surajmal Institute, GGSIP University, Delhi India, on 22<sup>nd</sup> May 2010.
20. Attended seminar and workshop on “Solutions for embedded systems design challenges” conducted by Tektronix, New Delhi, India on 23<sup>rd</sup> April 2010.
21. Attended workshop on Nanotechnology conducted by USBAS, Delhi India on 6<sup>th</sup> October 2009.
22. Attended University Grants Commission (India) sponsored Orientation Course conducted by Centre for Professional Development in Higher Education, CPDHE, University of Delhi, 2009.
23. Attended a workshop on “Embedded Systems” at Fab Lab (established by MIT, USA) Vigyan Ashram, Pabal, Pune from 5<sup>th</sup> June to 19<sup>th</sup> June 2008.
24. Member of the Scientific Committee International Conference on “Current Developments in Atomic, Molecular and Optical Physics With its Applications” (CDAMOP) held in March 22-24, 2006 at Department of Physics & Astrophysics, University of Delhi, Delhi.