

# Curriculum Vitae

Senior Asst. Professor

School of Biotechnology, SMVDU,

Katra-Jammu, India

Dec 2012-Present

Contact:

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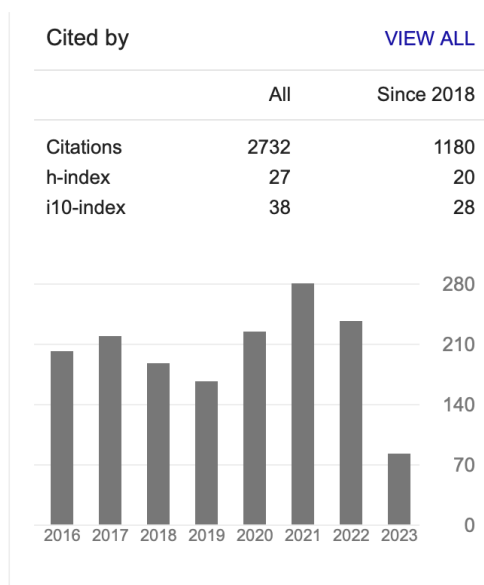
Editorial Advisory Board Member of the Journal of Biochemical and Molecular Toxicology (JBMT).

Supervisor- 9 Ph.D. and 30 Masters students.

5 Awarded 2 Submitted and 3 Ongoing

Google Scholar Profile:

<https://scholar.google.com/citations?user=4jd2afMAAAAJ&hl=en>



## **Education:**

- **Postdoctoral Research fellow at UTSW Medical Center in Dallas, TX, USA (November 2009-Dec. 2102)**
- **Postdoctoral Research Associate /Senior Research Tech. at Washington University School of Medicine, St. Louis, MO, USA. (April 2008-Nov 2009)**
- **Ph.D., All India Institute of Medical Sciences (AIIMS) in New Delhi, India (2004-2009)**
- **M.Sc. (Human Genetics), Guru Nanak Dev University in Amritsar, Punjab, India (2001-2003)**
- **BSc. (Biology) Jammu University, Jammu and Kashmir, India (1998-2001)**

## **Orientation/Refresher/FDP/MOOC Course:**

- **Refresher Course RC-328 -(Inter-Disciplinary) Indian Traditional Knowledge and Ethics-HRDC-HPU-19<sup>th</sup> July-31<sup>st</sup> July 2021**
- **Two Weeks-FDP-PMMMMNMTT (Online Faculty Development Program (FDP) on Entrepreneurship Development during (17<sup>th</sup>-30<sup>th</sup> June 2021)**
- **MOOC-Coursera-Introduction to the Biology of Cancer-July 27<sup>th</sup> 2020**
- **MOOC-Coursera-Biochemical Principles of Energy Metabolism 26<sup>th</sup> Nov 2019**
- **Refresher Course (Inter-Disciplinary)-Disaster Management HRDC-University of Jammu 10<sup>th</sup> Dec 16-30<sup>th</sup> Dec 2016**
- **Orientation Programme-OP119-HRDC-HPU-22<sup>nd</sup> June-18<sup>th</sup> July 15**

## **Awards & Honors:**

- **Performance linked award by SMVDU for year 2018-2019**
- **Most Outstanding poster presentation. First place in Neuro-Texas Translational health Symposium in Austin, Texas, 2nd April 2011**
- **Young Scientist- Dr G. P. Talwar Gold Medal for Best oral presentation (ISSRF-07).**
- **Best paper of the year by Andrology Society of India (Dec. 15-16, 2007).**

- Best oral presentation award in international free radical satellite meeting (Feb. 11-12, 2008 in New Delhi, India).
- SRF fellowship from Indian Council of Medical Research (2006-2008).

## Research Grants:

### A) Research Projects

S. No	Title of Project	Type of Grant	Role	Funding Agency	Year	Amount (Lakhs)
1	Trans Disciplinary Hub	Research center	Co-Investigator /Co-Coordinator	JK-HED	2022-2027	100.00
2	To study the genetic patterns among different cancers in Jammu and Kashmir population India.	Research Project	Principal Investigator	JK-DST	2021-2023	4.00
3	The genetics and epigenetics of infertility in humans by functional interrogation in animal models- a multi institutional study	Research Project	Principal Investigator	ICMR-Govt. of India	2023-2025	125.00 (Approx) Approved, sanction pending
4	Centre for Advanced Research-CAR (ICMR)-A multi-Institutional Project	Centre/ Research Project	Principal Investigator and Co-Ordinator	ICMR-Govt. of India	2018-2023	919.00
5	Molecular characterization of non-small cell lung carcinoma in patients from Jammu and Kashmir	Research Project	Principal Investigator	DST-Govt. of India	2017-2020	91.30
6	Genetic perspective of DNA Damage in breast cancer	Research Project	Principal Investigator	SERB-DST	2015-2018	24.90
7	Micro-RNA's in Breast Cancer patients	Research Project	Principal Investigator Co-	JK-DST	2012-	149.00

## B) WORKSHOP/CONFERENCE GRANTS

S. No	Title of event	Type of Grant	Role	Funding Agency	Year	Amount (Lakhs)
1	Brainstorming Meeting on "Congenital disorder and still birth"	Workshop	Convenor	JK-STIC	2023	1.00
2	ISSRF-2020	International Conference	Convenor	DST-SERB DST-JK CSIR MCI	2020	4.20
3	Brainstorming Meeting on "Maternal and Child Health"	Workshop	Convenor	JK-DST	2018-19	1.50
4	Scientific Innovation and Intellectual Property Rights	Workshop	Convenor	JK-DST	2017	1.00

## PUBLICATIONS:

1. Minerva Sharma, Amrita Bhat, Rajeshwer Singh Jamwal, Bhawani Sharma, Gresh Chander, Ruchi Shah, Sonali Verma, Taruna Arora, Audesh Bhat **Rakesh Kumar**. Cisplatin-based combination therapy for cancer. **Journal of Cancer Research and Therapeutics 2023 (Accepted) UGC S.No. 171 Impact Factor 1.331**
2. Gh. Rasool Bhat, Rajeshwar Jamwal, Itty Sethi, Amrita Bhat, Ruchi Shah Sonali Verma, Minerva Sharma, Hana Q. Sadida, Sara K. Al-Marzooqi, Tariq Masoodi, Sameer Mirza, Mohammad Haris, Muzafar A. Macha, Ammira S. Alshabeeb, Akil Ammira S. Alshabeeb Akil, **Rakesh Kumar**, Ajaz A. Bhat- Associations Between Telomere Attrition, Genetic Variants in Telomere Maintenance Genes, and Non-Small Cell Lung Cancer Risk in the Jammu and Kashmir Population of North India" **BMC Cancer 2023 (Accepted) Impact Factor 4.4**

3. Asif Amin, Faiza Beigh, Ruchi Shah, **Rakesh Kumar**, Raies Qadri, Ala307Thr variation modulates FSHR structure and impairs its binding affinity for FSH: Implications in Polycystic Ovarian Syndrome. Evaluation of Ala307Thr variation on FSHR structure and function- **Cell Biochemistry & Function 2023 (Accepted) Impact Factor 3.6**
4. Sonali Verma, Ruchi Shah, Amrita Bhat, Gh. Rasool Bhat, Divya Bakshi, Bhanu Sharma, Ajay Wakhloo, Vikas Heer, Gresh Chander, Audesh Bhat, **Rakesh Kumar**: Genetic analysis of polymorphism rs10937405 of *TP63* gene in breast and ovarian cancer patients of North Indian Cohort. **Journal of Cancer Research and Therapeutics 19(2):p 214-217, Jan–Mar 2023. UGC S.No. 171 Impact Factor 1.331**
5. Poonam Mehta, Arijit Chakraborty, Syed Waseem Andrabi, Bhawani Sharma, **Rakesh Kumar**, LVKS Bhaskar, Singh Rajinder COVID-19 vaccination does not affect male sexual functions **Reproductive Biology and Endocrinology 2023, 21 (1) 1-11 Impact Factor 4.298**
6. Bhat, A.; Ghatage, T.; Bhan, S.; Lahane, G.P.; Dhar, A.; **Kumar, R.**; Pandita, R.K.; Bhat, K.M.; Ramos, K.S.; Pandita, T.K. Role of Transposable Elements in Genome Stability: Implications for Health and Disease. **Int. J. Mol. Sci. 2022, 23, 7802 Impact Factor 6.274**
7. Gh Rasool Bhat, Itty Sethi, Bilal Rah, **Rakesh Kumar**, Dil Afroze: Innovative In-silco approaches for characterization of Genes and proteins-**Frontiers in Genetics 2022 13:865182 Impact Factor 4.772**
8. Minerva, Ruchi Shah, **Rakesh Kumar**: Role of genetic, environmental, and hormonal factors in the progression of PCOS: A-Review **Journal of Reproductive Healthcare and Medicine J Reprod Healthc Med 2022;3:3**
9. Surbhi Gupta, Manoj Kumar Gupta, **Rakesh Kumar**: Computational Prediction of Cancer Diagnosis: A Multi-Neural Ensemble Approach-**Applied Artificial intelligence E-print (2021) UGC S.No. 3152 Impact Factor 2.777**
10. Rajeshwer Singh Jamwal, Nikita Mahajan, Gh. Rasool Bhat, Amrita Bhat, Bhanu Sharma, Ruchi Shah, Minerva Sharma, Sonali Verma, Divya Bakshi, Rahul Sharma, Deepak Abrol, **Rakesh Kumar**. Audesh Bhat, REV3L gene variants rs1002481, rs462779, and rs465646 lead to increased susceptibility towards non-small cell lung cancer in the population of Jammu and Kashmir **Cancer Epidemiology 2021, 75-102047 UGC S.No. 6472 Impact Factor 2.89 #co-corresponding Author**

11. Gh. Rasool Bhat, Itty Sethi, Amrita Bhat, Sonali Verma, Divya Bakshi, Bhanu Sharma, Muddasser Nazir, Khursheed A Dar, Deepak Abrol, Ruchi Shah, **Rakesh Kumar**: Evaluation of the genetic variants using MassARRAY in non-small cell lung cancer among North Indians. **Scientific Reports (Nature) 11291 (2021) (e-Print)-<https://doi.org/10.1038/s41598-021-90742-1> Impact Factor-4.996**
12. Shashank Hambarde, Chi-Lin Tsai, Raj K. Pandita, Albino Bacolla, Anirban Maitra, Vijay Charaka, Clayton R. Hunt, **Rakesh Kumar**, Oliver Limbo, Remy Le Meur, Walter J. Chazin, Susan Tsutakawa, Paul Russell, Tej K. Pandita and John A. Tainer. EXO5-DNA Structure and BLM Interactions Control DNA Resection for Replication Restart. **Molecular Cell (2021) 81, 1-18 UGC S.No. 4874 UGC S.No. 4893 Impact Factor 19.328**
13. Bhanu Sharma, Shabab Angurana, Sonali Verma, Divya Bakshi, Ghulam Bhat, Asif Amin, Rajeshwer Jamwal, Raies Qadri, Amrita Bhat Ruchi Shah, **Rakesh Kumar**-Genetic association of ARID5B with the risk of colorectal cancer within J&K, India: A prelude study: **Genes and Genetics Systems (In Press)- Impact factor 0.917**
14. Bhanu Sharma, Sonali Verma, Divya Bakshi, Ghulam Bhat, Asif Amin, Rajeshwer Jamwal, Raies Qadri, Shabab Angurana, Amrita Bhat Ruchi Shah, **Rakesh Kumar**- Genetic Analysis of colorectal carcinoma using high throughput SNP genotyping technique within the population of Jammu and Kashmir. **Molecular Biology Reports (2021) 48 (8), 5889-5895 <https://doi.org/10.1007/s11033-021-06583-8> Impact factor 2.742**
15. Minerva, Ruchi Shah, Amrita Bhat, Sonali Verma, Gresh Chander, Gh Rasool Bhat, Namrata Thapa, Audesh Bhat, Ajay W Wakhloo, Ashraf Ganie, **Rakesh Kumar**. Role of genetic, environmental and hormonal factors in the progression of PCOS: A Review- **Journal of Reproductive Healthcare and Medicine May 2021 (In Press)-Impact Factor..**
16. Amrita Bhat, Gh. Rasool Bhat, Sonali Verma, Ruchi Shah, Monika Pandita, Divya Bakshi, Bhanu Sharma, Jyotsna Suri, Deepak Abrol, Rahul Sharma, Shabab Angurana, **Rakesh Kumar**: Genetic variant rs10937405 of *TP63* with Leukemia risk from Northern India population Submitted in **2021-African Journal of health sciences (2021) 21:3-1243-1249. UGC S.No. 1621 Impact factor 0.923.**
17. Amrita, Bhat, Gh Bhat, Sonali Verma, Bhanu Sharma, Divya Bakshi, Deepak Abrol, Supinder Singh, Raies Qadri, Ruchi Shah, **Rakesh Kumar**: Analysis of Seventeen genetic variants in association with Leukemia within North Indian population using mass ARRAY Sequenom J Biochem Mol Toxicol. May 2021 e-22792- **Impact Factor 3.606**

18. Divya Bakshi, Bhanu Sharma, Ruchi Shah, Amrita Bhat, Sonali Verma, Gh. Rasool Bhat, Deepak Abrol, Rahul Sharma, Samantha Vashnavi, **Rakesh Kumar**. ANKLE-1 as new hotspot mutation for Breast cancer in Indian population and has a role in DNA Damage and repair in mammalian cells **2021- Front. Genet. 11:609758. Impact factor 3.647**
19. Monika Pandita, Heena Shoket, Aayushi Rakwal, Shreya Wazir, Prabhat Kumar, **Rakesh Kumar**, Narendra Bairwa, Glyoxylate pathway regulator UCC1 and La-motif encoding SRO9 genes interact genetically to regulate stress response and apoptosis in *Saccharomyces cerevisiae* **J Biochem Mol Toxicol. 2021 Apr 2:e22781. doi: 10.1002/jbt.22781- Impact Factor 3.606**
20. Sabah Nisar, Parvaiz Yousuf, Tariq Masoodi, Nissar Ahmad Wani, Sheema Hashem, Mayank Singh, Geetanjali Sageena, Deepika Mishra, **Rakesh Kumar**, Mohammad Haris, Ajaz Ahmad Bhat, Muzafar A. Macha. Chemokine-Cytokine Networks in the Head and Neck Tumor Microenvironment. **Int. J. Mol. Sci. 2021, 22, 4584. https://doi.org/10.3390/ijms22094584- Impact factor 5.923**
21. Namrata Thapa, Sonali Verma, Gresh Chander, Amrita Bhat, Deepika Bhushan Raina, Shrutika Kachroo, Ruchi Shah, Rakesh Kumar. The Psychological Impact on Infertile Women – A Review. 2021 **Journal of Reproductive Healthcare and Medicine 2021;2:10.- Impact factor ..**
22. Bhanu Sharma, Ruchi Shah, Rajeshwar Singh, Sonali Verma, Amrita Bhat, Gh. Rasool Bhat, Divya Bakshi, Supinder Singh, Shabab Angurana, Audesh Bhat, Samantha Vaishnavi and **Rakesh Kumar**. Evaluation of Newly Identified IKZF1 Loci in Colorectal cancer-**2021 J Can Res Ther-2021; XX; XX-XX (e-Print) UGC S.No. 171 Impact factor 1.326**
23. Deepika Bhushan Raina, Sonali Verma, Namrata Thapa, Gresh Chander, Shrutika Kachroo, Ruchi Shah and Rakesh Kumar Esophageal Cancer and Genetic Analysis Using High Throughput mass ARRAY technique-**2020-A Review Oncol Clin Res 2(1): 92-94- Impact factor--.**
24. Sonali Verma, Varun Sharma, Indu Sharma, Ruchi Shah, Amrita Bhat, Gh. Rasool Bhat, Divya Bakshi, Ashna Nagpal, Bhanu Sharma, Deepak Abrol, Rahul Sharma, Audesh Bhat, **Rakesh Kumar** Association Analysis of Cancer Susceptibility Variants in Ovarian Cancer Patients- **Scientific Reports (Nature) 2020 Dec 3;10(1):21101. doi: 10.1038/s41598-020-76491-7. Impact factor 4.996**

25. Amrita Bhat, Deepak Abrol, Gh. Rasool Bhat, Ruchi Shah, Sonali Verma, Divya Bakshi, Bhanu Sharma, Supinder Singh, Rakesh Raina, **Rakesh Kumar**. The Genetic variant rs2301721 of HOXA7 associated risk for Leukemia in Jammu region of North Indian Population- **2020 Polymorphism, 5, 68-76. Impact factor**
26. Divya Bakshi; Ashna Nagpal, Varun Sharma, Indu Sharma, Ruchi Shah, Bhanu Sharma, Amrita Bhat, Sonali Verma, Gh. Rasool Bhat, Deepak Abrol, Rahul Sharma, Samantha Vashnavi, **Rakesh Kumar**. MassARRAY-based single nucleotide polymorphism analysis in breast cancer of North Indian Population. **2020-BMC Cancer- Sep 7;20(1):861. UGC S.No. 5269 Impact factor 4.638**
27. Itty Sethi, Gh. Rasool Bhat, **Rakesh Kumar**, Ekta Rai, Swarkar Sharma; Dual Labeled Fluorescence Probe Based qPCR Assay to Measure the Telomere Length Gene, 145178 **Gene** 2020- 145178- **Impact Factor 2.9**
28. Ashna Nagpal, Sonali Verma, Ruchi Shah, Gh. Rasool Bhat, Amrita Bhat, Divya Bakshi, Bhanu Sharma, Sandeep Kaul, and **Rakesh Kumar**. Genetic polymorphism of hOGG1 ser326cys and its association with breast cancer in North Indian Population. **Indian J Cancer. 2020 Apr-Jun;57(2):187-189. UGC S.No. 74 Impact Factor:1.22**
29. Gh. Rasool Bhat, Sonali Verma, Amrita Bhat, Ruchi Shah, Itty Sethi, Khursheed A. Dar, Deepak Abrol, Audesh Bhat, Rakesh Raina, **Rakesh Kumar**; Genetic variant rs2494938 of LRFN2 gene is associated with non-small cell lung cancer risk in North-Indian population **3Biotech;2020 (10)-410 UGC S.No. 299 Impact Factor 2.40**
30. Ruchi Shah, Varun Sharma, Amrita Bhat, Hemender Singh, Indu Sharma, Sonali Verma, Gh Rasool Bhat, Bhanu Sharma, Divya Bakshi, **Rakesh Kumar** and Nazir Ahmed Dar: MassARRAY analysis of twelve cancer related SNPs in esophageal squamous cell carcinoma in the population of Jammu and Kashmir-India. **BMC Cancer, 2020 Jun 1;20(1):497. UGC S.No. 5269 Impact factor 4.638**
31. Ruchi Shah, Puja G. Khaitan, Tej K. Pandita, Adnan Rafiq Deepak Abrol, Jyotsna Suri, Sandeep Kaul, **Rakesh Kumar** and Swarkar Sharma; Gastric cancer in Jammu and Kashmir India: A Review of Genetic Perspectives **J Can Res Ther. 2020- UGC S.No. 171 Impact Factor:1.9**
32. Souneek Chakraborty, Mir Khalid, **Rakesh Kumar**, Debasis Nayak, Anindya Goswami Integration of EMT and cellular survival instincts in reprogramming of programmed cell



death to anastasis **Cancer Metastasis and Reviews** (2020) Jun;39(2):553-566- **Impact factor 9.264**

33. Sonali Verma, Divya Bakshi, Varun Sharma, Indu Sharma, Ruchi Shah, Bhanu Sharma, Amrita Bhat, G.R Bhat, Ajay Wakhloo, Jyotsna Suri, Sandeep Kaul, Vijeshwar Verma, **Rakesh Kumar**: Profiling of Newly Identified Genetic Variants at 7p15.3 and 6p21.1 in Ovarian and Breast cancer females of Jammu and Kashmir: A First Report; in **International Journal of Gynecology & Obstetrics** 148 (1), 118-122 Jan 2020- **UGC S.No. 5231 Impact factor 3.56**
34. Souneek Chakraborty, Aviral Kumar, Mir Faheem, Archana Katoch, Anmol Kumar Vijay Jamwal, Debasis Nayak, Aparna Golani, Reyaz Rasool, Mr. Syed Ahmad, Mr. Jedy Jose, **Rakesh Kumar**, Sumit Gandhi, Lekha Kumar Anandiya Goswami. Vimentin activation in early apoptotic cancer cells errands survival pathways during DNA damage inducer CPT treatment in colon carcinoma model. **Nature Cell death and Disease** (2019) 10:467- **Impact factor 8.469**
35. Siddharth Manvati, Kailash Chandra Mangalharra, Ponnuswamy Kalaiarasan, Rupali Chopra, Gaurav Agarwal, **Rakesh Kumar**, Sunil Kumar Saini, Monika Kaushik, Ankita Arora, Usha Kumari, Rameshwar Nath Koul Bamezai, Pawan Kumar Dhar (2019): miR-145 supports cancer cell survival and shows association with DDR genes, methylation pattern, and epithelial to mesenchymal transition. **Cancer Cell International** (2019) 19: 230- **Impact factor 6.429**
36. Gh. Rasool Bhat, Amrita Bhat, Sonali Verma, Itty Sethi, Ruchi Shah, Varun Sharma, Khursheed A Dar, Deepak Abrol, Subiya Kaneez, Sandeep Kaul, Ramesh Ganju, **Rakesh Kumar**. Association of newly identified genetic variant rs2853677 of TERT with Non-small cell lung cancer and Leukemia in population of Jammu and Kashmir, India. **BMC Cancer** (2019) 19:493- **UGC S.No. 5269 Impact factor 4.638**
37. Gh. Rasool Bhat, Amrita Bhat, Sonali Verma, Itty Sethi, Ruchi Shah, Varun Sharma, Minerva, Divya Bakshi, Bhanu Sharma, Sandeep Koul, Deepak Abrol, Audesh Bhat, **Rakesh Kumar**. Genetic variant rs10937405 of TP63 and susceptibility to lung cancer risk in North-Indian population. **Journal of Genetics** (2019) 98:59- **UGC S.No. 191 Impact Factor: 1.508**
38. Amrita Bhat, Ruchi Shah, Sonali Verma, Gh.Rasool Bhat, Varun Sharma, Indu Sharma, Monika Pandita, Divya Bakshi, Bhanu Sharma, Kohsheen Kamal, Jyotsna Suri,

- Deepak Abrol, Rahul Sharma, **Rakesh Kumar**; Association of ARID5B and IKZF1 variants with Leukemia from Northern India. **Genetic Testing and Molecular Biomarkers**, 2019 Mar;23(3):176-179- **Impact factor 1.736**
39. Sonali Verma, Varun Sharma, Ashna Nagpal, Amrita Bhat, G.R Bhat, Ruchi Shah, Ajay Wakhloo, Jyotsna Suri, Deepak Abrol, Sandeep Koul, Audesh Bhat, Vijeshwar Verma, **Rakesh Kumar**. DNA base excision repair (BER) genes variants rs25487 (XRCC1) and rs1052133 (hOGG1) With susceptibility to ovarian cancer in the population of Jammu Region- India. **J Cancer Res Ther.** 15 (6), 1270-1275. Oct-Dec 2019- **UGC S.No. 171 Impact factor 1.331**
40. Sonali Verma, Ruchi Shah, Gh. Rasool Bhat, Amrita Bhat, Rima Dada, **Rakesh Kumar**. A familial case of 13:22 Chromosomal translocations in a family with reproductive failure. **Balkan Journal of Medical Genetics** 21 (2), 1 73-78. (2018)- **UGC S.No. 4571 Impact factor 0.81**
41. Ruchi Shah, Sonali Verma, Ghulam Rasool Bhat, Amrita Bhat, Rima Dada, **Rakesh Kumar**. Pericentric Inversion of Chromosome 7 Associated with recurrent ICSI Failure-A case report. **Indian Journal of genetics and plant breeding** 78 (4): 515-518 (2018)- **Impact factor 0.5**
42. Sethi I, Bhat GR, Singh V, **Kumar R**, Bhanwer AJ, Bamezai RN, Sharma S, Rai E. Role of telomeres and associated maintenance genes in Type 2 Diabetes Mellitus: A Review. **Diabetes Res Clin Pract.** 2016 Dec;122:92-100- **Impact factor 5.6**
43. Helen Sadik, Nguyen Nguyen, Gyorffy Balazs, **Rakesh Kumar**, Mohammad Hedayati, Sunju Park, Hardik Panday, Theodore DeWeese, Nilay Shah, Tej K. Pandita, Saraswati Sukumar. HOXC10 links proliferation, transcription, and DNA repair to promote chemotherapy resistance. **Cancer Research** 2016 Aug 1;76(15):4443-56 – **UGC S.No. 6502 Impact factor- 13.312**
44. Michael Torres, Raj K. Pandita, Ozlem Kulak, **Rakesh Kumar**, Etienne Formstecher, Yingming Zhao, Lawrence Lum, Tej K. Pandita, and Michael White. Exocyst Interaction Network Reveals a Role for Sec8 in Suppression of Genomic Instability and Regulation of Histone-Modifying Proteins ATF2 and RNF20. **Molecular and Cellular Biology** (2015 Nov;35(21):3633-45) – **UGC S.NO. 4893 Impact factor 5.069**

45. **Rakesh Kumar**, Arun Gupta, Mayank Singh, Clayton Hunt, Tej Pandita. Role of chromatin modification and DNA damage response. **Frontiers in Oncology** 2013 Jan 22;2:214- **Impact factor 5.738**
46. Singh M\*, Hunt CR\*, Pandita RK\*, **Kumar R\***, Yang CR, Horikoshi N, Gupta A, Jessie Jeffery, Pandita S, Qin Yang, Khanna KK, Howard J Worman, Shay JW, Micheal D Story and Pandita TK. Lamin A dependent cyclin D1 is essential for replication stalled fork resolution independent of DSB repair. **Mol Cell Bio** 2013 Mar;33(6):1210-22 **\*Equal Authors – UGC S.No. 4893 Impact factor 8.185**
47. Arun Gupta, Clayton R Hunt, Raj K. Pandita, Juhee Pea, Komal Komal, Mayank Singh, Jerry W. Shay, **Rakesh Kumar**, Walter N. Hittelman, Chandan Guha, Thomas Ludwig and Tej K. Pandita. Targeted deletion of males absent on the first (mMof) in T-cells blocks their differentiation and has a bystander effect on B-cell genomic instability. **Mutagenesis** (2013) May;28(3):263-70- **Impact factor 2.954**
48. Justin L. Sparks, **Rakesh Kumar**, Mayank Singh, Tej K. Pandita, Peter M. Burgers. Human Exonuclease 5 is a novel sliding exonuclease required for UV and interstrand crosslink repair. **Journal of Biological Chemistry** (2012 Dec 14;287(51):42773-83)- **Impact factor 5.486**
49. Mirza S, Katafiasz BJ, **Kumar R**, Wang J, Mohini S, Jain S, Gurumurthy CB, Pandita TK, Dave BJ, Band H, Band V. Alteration/deficiency in activation-3 (Ada3) plays a critical role in maintaining genomic stability. **Cell Cycle**. 2012 Nov 15;11(22):4266-74. **Impact factor 5.173**
50. Sang Bum Kim, Raj K. Pandita, Ugur Eskiocak, Peter Ly, Aadil Kaisani, **Rakesh Kumar**, Crystal Ornelius, Woodring E. Wright, Tej K. Pandita and Jerry W. Shay. Targeting of Nrf2 enhances DNA double-strand break repair and protects colonic epithelial cells after irradiation **Proc Natl Acad Sci U S A (PNAS)** 2012 Oct 23; **Impact Factor 11.205**
51. **Rakesh Kumar**, Clayton Hunt, Arun Gupta, Suraj Nannepaga, Raj Pandita, Jerry Shay, Robert Bachoo, Thomas Ludwig, Dennis Burns, Tej Pandita. Purkinje Cell Specific mMof Deletion Results in an Ataxia-Telangiectasia-Like Neurological Phenotype Including Backward Walking in Mice. **Proc Natl Acad Sci U S A (PNAS)** 2011 108(9):3636-41 **Impact Factor 11.205**
52. Manika P. Bhadra, Nobuo Horikoshi, Sreerangam NCVL Pushpavallipalli, Arpita Sarkar, Indra Bag, Anita Krishan, John C. Lucchesi, **Rakesh Kumar**, Qin Yang, Raj K. Pandita,

- Mayank Singh, Utpal Bhadra, Joel C. Eisenberg and Tej K. Pandita. The Role of MOF in the Ionizing Radiation Response is conserved in *Drosophila melanogaster*. **Chromosoma** 2012 Feb;121(1):79-90. **UGC S.No. 7316 Impact Factor 2.919**
53. Manoj Kumar, **Rakesh Kumar**, Mukesh Tanwar, Supriyo Ghose, Jasbir Kaur and Rima Dada. Cytogenetic and clinical assessment of a family with Treacher Collins Syndrome (TCS). **Case Rep Med**;2011:708450- **Impact factor 0.72**
54. Han Liu, Shugaku Takeda, **Rakesh Kumar**, Todd D. Westergard, Eric J. Brown, Tej Pandita, Emily H.-Y. Cheng<sup>1</sup> and James J.-D. Hsieh. Phosphorylation of MLL by ATR is required for the Execution of Mammalian S Phase Checkpoint Response. **Nature**, 2010 16;467(7313):343-6. **Impact Factor 69.504**
55. Girdhar G. Sharma\*, Sairie So\*, Arun Gupta\*, **Rakesh Kumar\***, Christelle Cayrou, Nikita Avvakumov, Utpal Bhadra, Raj K. Pandita, David J Chen, Jacques Cote and Tej K. Pandita. MOF and histone H4 acetylation at lysine16 are critical for DNA damage response. **Molecular Cell Biology** (14):3582-95 (2010)\* **Equal Authors. UGC S.NO. 4893 Impact Factor 8.185**
56. Bolderson E, Tomimatsu N, Richard DJ, Boucher D, **Kumar R**, Pandita TK, Burma S, Khanna KK. Phosphorylation of Exo1 modulates homologous recombination repair of DNA double-strand breaks. **Nucleic Acids Res.** (6):1821-31 (2010) **Impact Factor-19.16**
57. Yongjiang Li, Emma Bolderson, **Rakesh Kumar**, Parameswary A Muniandy, Yutong Xue, Derek Richard, Michael Seidman, Tej K. Pandita, Kum Kum Khanna, and Weidong Wang. hSSB1 and hSSB2 Form Similar Multi-Protein Complexes that Participate in DNA Damage Response. **J Biol Chem.** 28:23525-31(2009). **Impact Factor-5.486**
58. Arun Gupta, Qin Yang, Raj K. Pandita, Clayton R. Hunt, Tao Xiang, Sandeep Misri, Sicong Zeng, Julia Pagan, Jessei Kelley, Janusz Puc, **Rakesh Kumar**, Zhihui Feng, Simon N. Powell, Audesh Bhat, Tomoko Yaguchi, Renu Wadhwa, Sunil C. Kaul, Ramon Parsons, Kum Kum Khanna and Tej K. Pandita. Cell cycle checkpoint defects contribute to genomic instability in PTEN deficient cells independent of DNA repair. **Cell Cycle** 8:1-13; (2009). **Impact Factor-5.173**
59. Desai A, Jha O, Iyer V, Dada R, **Kumar R**, Tandon N. Reversible hypogonadism in Bardet-Biedl syndrome. **Fertil Steril.**92:e13-5 (2009). **Impact Factor 7.329**

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- 81.** Dada R, Kumar R, Jena M, Kucheria K, Chromosomal aberrations and its association with reproductive failure. J. Anat.Soc.India 51: 77 (2005). **Impact Factor-2.921**
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#### **CHAPTERS IN BOOKS:**

1. Ruchi Shah, Amrita Bhat, Raies Qadri, **Rakesh Kumar**-Immunogenetic mechanisms in the treatment of cancer- *Clinical Applications of Immunogenetics* Elsevier (In Press) ISBN 9780323902502
2. Sonali Verma, Gresh Chander, Deepika Bhushan Raina, Ruchi Shah and Rakesh Kumar- Evolution of Cancer Therapies- **Modern Cancer Therapies and Traditional Medicine: An Integrative Approach to Combat Cancers** 2021, 1-23 ISBN (Online): 978-981-4998-66-6. Bentham Science Publishers Limited, Singapore
3. Gresh Chander, Sonali Verma, Ruchi Shah, and Rakesh Kumar- **Conservation of Biodiversity and Freshwater Ecosystems- Biodiversity of Freshwater Ecosystems Threats, Protection, and Management**-\_\_Apple academic Press\_Hard ISBN: 9781774910023, 2021
4. S. Venkatesh, Kumar R., D. Pathak, M.B. Shamsi, M. Tanwar, R. Deecaraman and R. Dada. Role of Environment, Occupational Exposure, LifeStyle and Diet on Free Radical Induced Mitochondrial DNA Damage and Reproductive Failure. Environmental & Occupational Exposures 78-101(2010)- **Publisher:** Daya Publishing House (July 6, 2010) **ISBN-10:** 9788170356462, **ISBN-13:** 978-8170356462

#### **CONFERENCE PAPERS AND PROCEEDINGS CONGRESSES**

1. Gh Rasool Bhat, Itty Sethi, Amrita Bhat, Sonali Verma, Ruchi Shah, Deepak Abrol, **Rakesh Kumar**. Identification of XRCC1 variant rs25487 involved in DNA repair pathway as a risk factor for Lung cancer in J&K population. (Accepted in International Journal of Advance research in science and Engineering, ISSN(O) :2319-8354, ISSN(P): 2319-8346) (2018)- Impact **factor1.21**

2. V Sundararajan, Kumar R, MB Shamsi, M Tanwar, M Kumar, D Pathak, R Kumar, N P Gupta, S Mukherjee, N Malhotra, TK Das, P Talwar, R K Sharma, and R Dada. Mitochondrial ATPase Gene Mutations Associated with Low Antioxidant Levels in Idiopathic Asthenozoospermic Indian Men. *Perspectives in Cytology and Genetics*;13: 263-272 (2007).
3. M Tanwar, V Sundararajan, MB Shamsi, M Kumar, D Pathak, Kumar R, Kumar R, NP Gupta, P Talwar, RK Sharma and R Dada. Infertility-Yq Micro-deletions and Implications in Assisted procreation. *Perspectives in Cytology and Genetics*;13: 273-287 (2007).
4. Dada R, Kumar R, R S Sharma, Kiran Kucheria. Assisted reproduction and genetics *Perspectives in Cytology and Genetics*, 12:493-495 (2006).
5. Dada R, Kumar R, AC Ammini, Kiran Kucheria. Hematological malignancy and Klinefelters syndrome. *Perspectives in Cytology and Genetics* 2:497-499 (2006)

#### **MANUSCRIPTS UNDER REVIEW**

1. Amrita Bhat, Monika Pandita, Supriya Hakeem, Gh. Rasool Bhat, Sonali Verma, Gresh Chander, Shabab Angurana, Asif Amin, Raies A Qadri, Ruchi Shah, **Rakesh Kumar**. Role of paired box 5 (PAX 5) genetic variant in the development and progression of leukemia **BMC Genomics** (Under Review)
2. Sonali Verma, Divya Bakshi, Ruchi Shah, G.R Bhat, Amrita Bhat, Bhanu Sharma, Vikas Heer, Himanshu Rana, Mukesh Tanwar, Ajay Wakhloo, and **Rakesh Kumar**. The Association of rs2853677 of TERT variant with Breast and Ovarian Cancer within North Indian females. **Taiwanese Journal of Obs and Gynae** (Under Review).
3. Sonali Verma, Gresh Chander, Amrita Bhat, Gh.Rasool Bhat, Divya Bakshi, Bhanu Sharma, Himanshu Rana, Jyotsna Suri, Ajay Wakhloo, Audesh Bhat, Ruchi Shah, and **Rakesh Kumar**. Analysis of genetic variation in circadian rhythm genes and risk of ovarian cancer. **JCR** (Under Review)

#### **MANUSCRIPTS UNDER PREPARTATION**

1. Amrita Bhat, Sonali Verma, Ghulam Rasool Bhat, Ruchi Shah<sup>#</sup>, Monika Pandita, Ghanshyam Kachhawa, Deepak Abrol, Jyotsna Suri, Rahul Sharma, Vishal Tandon, Ramesh Ganju, **Rakesh Kumar\***. Epidemiology of cancers from Jammu -A North Indian perspective-Under review in *Cancer Investigation* (# equal Author).



2. Gh. Rasool Bhat, Itty Sethi, Amrita Bhat, Sonali Verma, Ruchi Shah, Swarkar Sharma, Deepak Abrol, Tej. K Pandita, **Rakesh Kumar\***. MicroRNA-Role in Human Pulmonary Neoplasm and therapeutic potential (A Review); Under review in Pathobiology (**Manuscript ID: 201807002**).
3. Archana Katoch, Vijay Lakshmi Jamwal, Mir Mohd Faheem, Shantibhusan Senapati, Debaraj Mukherjee, N.K. Satti, Sumit G Gandhi, **Rakesh Kumar** and Anindya Goswami Par-4 mitigates EMT and migration in pancreatic cancer cells via restoring the miR-200c levels: **Nature Cell Death and Disease. (Under Preparation)**
4. Sonali Verma, Ruchi Shah, Ghulam Rasool Bhat, Gresh Chander, Amrita Bhat, Samantha Vashnavi, Audesh Bhat, RNK Bamezai, Rima Dada and **Rakesh Kumar** Association of Oligoasthenoteratozoospermia with mitochondrial genome variation in Primary male Infertility of North Indian Origin. (**Under Preparation**)
5. Sonali Verma, Indu Sharma, Varun Sharma, Amrita Bhat, Ruchi Shah, G.R Bhat, Divya Bakshi, Bhanu Sharma, Ajay Wakhloo, Audesh Bhat, Samantha Vaishnavi, Vijeshwar Verma, **Rakesh Kumar**. Evaluation of cancer related polymorphisms in ovarian cancer patients: A prelude study in J&K region. (**Under Preparation**)
6. Sonali Verma, Himanshu, Jyotsna Suri, Ajay Wakhloo, Vikas Heer, Sandeep Koul, Samantha Vaishnavi, Vijeshwar Verma, **Rakesh Kumar**: Clinic pathologic analysis of ovarian tumor with special emphasis on age from J&K region. (**Under Preparation**)
7. Bhanu Sharma, Irfan Mir, Divya Bakshi, Ruchi Shah, Sonali Verma, Ghulam Rasool Bhat, Amrita Bhat, Shabab Angurana, Chrungoo RK, Samantha Vaishnavi and **Rakesh Kumar**: Novel variation of Her2 gene in colorectal cancer. (**Under Preparation**)

### **Student Awards:**

- Best Panel Discussion Award- **Mr. Gh. Rasool Bhat** at NEUROCON 2019 at MM continental Ambala on 18 November 2019.
- Gold Medal- **Ms Amrita Bhat** for outstanding poster presentation in cancer conference at Hotel Country Inn Jammu October 2019
- Atal Vani Partaker-**Ms. Sonali Verma**-Silver Medal, Crab-E-Con 2018.
- LBN Scroll of Honour- **Mr. Gh Rasool Bhat** for outstanding work in field of cancer genetics.-2016

- JBM Gold Medal-**Mr. Gh. Rasool Bhat** CRAB-e-CON 2015 at hotel Fortune inn Revera Jammu
- **Young Scientist (Poster)\_Silver Medal- Gh.Rasool Bhat**, Itty Sethi, Sonali Verma, Amrita Bhat, Swarkar Sharma, Khursheed A Dar, Deepak Abrol **Rakesh Kumar** “Polymorphism in DNA repair gene XRCC1 and its role in susceptibility to lung cancer risk in ethnic population of Jammu and Kashmir” **2<sup>ND</sup> Medical Science Congress 10<sup>th</sup> - 13<sup>th</sup> May 2017**
- **Young Scientist (Oral) -Silver Medal Itty Sethi**, G.R. Bhat, Varun Sharma, Ankit Mahajan, Gurbinder Singh, **Rakesh Kumar**, Vinod Singh, Manoj K Dhar, AJS Bhanwer, Swarkar Sharma, and Ekta Rai “**Leukocyte telomere length, a marker of senescence is associated with type 2 diabetes**” at **2<sup>ND</sup> Medical Science Congress 10<sup>th</sup> -13<sup>th</sup> May 2017**
- 3<sup>rd</sup> Prize-IPR Quizophile Vandita Sharma, **Rakesh Kumar**
- 2<sup>nd</sup> Prize- IPR Quizophile Nipunta Tanoj, **Rakesh Kumar**
- **First prize\_Sheetal Bhat, G.R. Bhat, Nipunta, Shilpa Raina, Sandeep Kaul, Rakesh Kumar** Presented poster titled-’**Genetic characterization of human pulmonary neoplasm and its effect on human health**’ at Jammu University (12<sup>th</sup> JK Science Congress 2<sup>nd</sup>-5<sup>th</sup> March 2017)
- **Awarded 2<sup>nd</sup> Best Poster Prize** -Gh. Rasool Bhat, Sonali Verma, Amrita Bhat· Deepak Abrol, Khursheed A Dar, Rakesh Kumar “Effect of cigarette smoking in changing histopathology among lung cancer patients” At **PathoCon 2017**, GMC, Jammu on 22<sup>nd</sup> April 2017
- **Scroll of HONOUR** to my Student **Mr. Gh. Rasool Bhat** for his work on lung cancer under my supervision in Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
- **Ist position** (Poster) Sonali Verma, Amrita Bhat, G.R Bhat, Deepak Abrol, Jyostna Suri, Ajay Wakhloo, V. Verma, Rakesh Kumar “**Replicative study of lung cancer (XRCC1 gene rs25487) in normal and ovarian cancer females from Jammu region**” Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
- **3<sup>rd</sup>** (Joint) Divya Bakshi and Rakesh Kumar-**Breast cancer metastasis to lung cancer** - Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
- **JBM Gold medal** for poster presentation at Crab-e-Con held at Hotel Fortune 24<sup>th</sup>-25<sup>th</sup> October 2015 (**GR Bhat**)

## Posters:-

1. **Gh Rasool Bhat** and **Rakesh Kumar**, “An enigmatic role of telomeric attrition in neurological disorders” **NEUROCON 2019 from 15<sup>th</sup> Nov-18<sup>th</sup> Nov 2019 at Ambala.**
2. **Amrita Bhat**, Nipunta Tanoj, K.K Pandita, **Rakesh Kumar**, “Genetic Screening of Amyotrophic Lateral Sclerosis (ALS) patients from Jammu Region. **NEUROCON 2019 from 15<sup>th</sup> Nov – 18<sup>th</sup> Nov 2019 at Ambala.**
3. **Gresh Chander** and **Rakesh Kumar**, Endocrine Disruptors and Male Infertility” **NEUROCON 2019 from 15<sup>th</sup> Nov – 18<sup>th</sup> Nov 2019 at Ambala.**
4. **Sonali Verma**, Ajay Wakhloo, **Rakesh Kumar**, “Neurodegenerative disorder (Huntington’s Disease) Biomarker- Dynein Axonemal Heavy Gene (DNAH) and its possible role in ovarian cancer” **NEUROCON 2019 from 15<sup>th</sup> Nov- 18<sup>th</sup> Nov 2019 at Ambala.**
5. **Sonali Verma**, Amrita Bhat, Gh. R Bhat, Sandeep Kaul, Jyotsna Suri, Ajay Wakhloo, V. Verma, Rakesh Kumar “Interactions of DNA repair gene polymorphism with Hormonal status of ovarian cancer females from Jammu region” **2<sup>ND</sup> Medical Science Congress 10<sup>th</sup> -13<sup>th</sup> May 2017.**
6. **Sonali Verma**, Amrita Bhat, G. R Bhat, Sandeep Kaul, Jyotsna Suri, Ajay Wakhloo, V.Verma, Rakesh Kumar “**HER2 Expression in Ovarian Carcinomas: Eye View**” at PATHOCON 2017, GMC, Jammu on 22<sup>nd</sup> April 2017
7. **Amrita Bhat**, Sonali Verma, G R Bhat, Jyotsna Suri, Deepak Abrol, Rahul Sharma, Rakesh Kumar “**Significant Histopathology in the Classification and Diagnosis of Leukemia**” at PATHOCON 2017, GMC, Jammu on 22<sup>nd</sup> April 2017
8. **Divya Bakshi**, Deepak Abrol, Sandeep Kaul, **Rakesh Kumar**. “**Pathology of Breast Cancer**” at PATHOCON 2017, GMC, Jammu on 22<sup>nd</sup> April 2017
9. **Bhanu Sharma**, Divya Bakshi, Deepak Abrol, Jyotsna Suri, Samantha Vaishnavi, Rakesh Kumar “**Pathologic Classification of non-functioning neuroendocrine tumors by using significant biomarkers**” at Pathocon 2017, GMC, Jammu on 22<sup>nd</sup> April 2017
10. **Shilpa Raina**, G.R. Bhat, Sheetal Bhat, Nipunta, Deepak Abrol, **Rakesh Kumar** “Underlying genetic mechanism of Ataxia-Telangiectasia” on 12<sup>th</sup> JK congress held at Jammu University 2-5<sup>th</sup> March 2017.
11. **Shilpa Raina**, G.R. Bhat, Sheetal Bhat, Nipunta, Deepak Abrol, **Rakesh Kumar** “Role of ATM gene variations in pathogenesis of various cancers” in Recent Trends in Biotechnology and Drug Discovery” on 30<sup>th</sup> and 31<sup>st</sup> March, 2017 SMVDU, Katra.
12. **Nipunta**, Amrita Bhat, K.K Pandita, Susheel Razdan, **Rakesh Kumar** “Role of Genetics in Amyotrophic Lateral Sclerosis” in Recent Trends in Biotechnology and Drug Discovery” on 30<sup>th</sup> and 31<sup>st</sup> March, 2017 SMVDU, Katra

13. **Nipunta**, G.R Bhat, Amrita Bhat, **Rakesh Kumar**. “Impact of lung carcinoma on human health” at 12<sup>th</sup> **JK Science Congress** held Jammu University from 2-5<sup>th</sup> March 2017.
14. **Sheetal Bhat**, G.R. Bhat, Nipunta, Shilpa Raina, Sandeep Kaul, Rakesh Kumar Presented poster titled- '**Genetic characterization of human pulmonary neoplasm and its effect on human health**' at Jammu University (12<sup>th</sup> JK Science Congress 2-5<sup>th</sup> March 2017).
15. Presented poster titled-“**Genetic characterization of human pulmonary neoplasm and its effect on human health**” at Jammu University (12<sup>th</sup> JK Science Congress from 2-5<sup>th</sup> March 2017).
16. Sheetal Bhat, G.R. Bhat, Nipunta, Shilpa Raina, Sandeep Kaul, **Rakesh Kumar** “*Etiology of lung cancer*’ in *Recent Trends in Biotechnology and Drug Discovery*” on 30<sup>th</sup> and 31<sup>st</sup> March, 2017 SMVDU, Katra
17. **Vandeeta Sharma**, Sonali Verma, Supinder Singh, Ajay Wakhloo, **Rakesh Kumar**- Genetic Analysis of Polycystic Ovarian syndrome in Jammu region (12<sup>th</sup> JK Science Congress from 2-5<sup>th</sup> March 2017).
18. **Vandeeta Sharma**, Sonali Verma, Ajay Wakhloo, **Rakesh Kumar**. Single Nucleotide Polymorphic analysis of Ovarian Cancer in Women of Jammu region **Recent Trends in Biotechnology and Drug Discovery**” on 30<sup>th</sup> and 31<sup>st</sup> March, 2017 SMVDU, Katra
19. Sonali Verma, Amrita Bhat,G.R Bhat , Deepak Abrol, Jyostna Suri, Ajay Wakhloo, V. Verma, Rakesh Kumar “**Replicative study of lung cancer (XRCC1 gene rs25487) in normal and ovarian cancer females from Jammu region**” Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
20. Monika Pandita, Meenu Sharma, Heena Shoket, Amrita Bhat, Rakesh Kumar, Narendra K. Bairwa \***F-box proteins and cancer: an unraveled association-** Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016.
21. Divya Bakshi and Rakesh Kumar-**Breast cancer metastasis to lung cancer** - Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
22. Amrita Bhat1, Sonali Verma, G.R. Bhat, Monika Pandita, Jyotsna Suri Deepak Abrol, Sindhu Sharma, Narendra K Bairwa, Rakesh Kumar. **Development from leukemia to solid tumors.** Dwitya Crab-e-Con on lung cancer, 3<sup>rd</sup> September 2016
23. Amrita Bhat, Sonali Verma, G.R. Bhat, Monika Pandita, Jyotsana Suri, Deepak Abrol, Rahul Sharma, Rakesh Kumar. **ABL kinase family in human cancers:** significant risk of leukemia in breast cancer Dwitya Crab-e-Con on lung cancer, 24<sup>th</sup>-25<sup>th</sup> October 2015
24. GR Bhat, Itty Sethi, Amrita Bhat, Sonali Verma, Ruchi Shah, Swarkar Sharma, Deepak Abrol, Rahul Sharma, Jyotsana Suri, Rahul Gupta, Khursheed Dar, Rakesh Kumar. **Genetics of Signaling that mediate the metastasis from breast to lung (CXCR4) signaling** Crab-e-Con on lung cancer. 24<sup>th</sup>-25<sup>th</sup> October 2015

25. Sonali Verma, Amrita Bhat, Gh. Rasool Bhat, Deepak Abrol, Rahul Sharma, Jyotsna Suri, Sindhu Sharma, Indu Kaul, V. Verma, Rakesh Kumar. **Role of DNA damage Gene (BRCA) in DNA repair in Breast and Ovarian Cancer Dwitya Crab-e-Con on lung cancer.** 24<sup>th</sup>-25<sup>th</sup> October 2015
26. Divya Bakshi and Rakesh Kumar “**Genomics in Breast Cancer**” at Crab-e-Con held at Hotel Fortune 24<sup>th</sup>-25<sup>th</sup> October 2015
27. Monika Pandita, Rakesh Kumar and Narendra Bairwa-Janus Kinase – **Functional role in Breast Cancer** at Crab-e-Con held at Hotel Fortune 24<sup>th</sup>-25<sup>th</sup> October 2015
28. Bhanu Sharma, Samantha Vaishnavi and Rakesh Kumar: **Fine needle aspiration cytology (FNAC) as Diagnostic Benchmark in Breast Cancer** at Crab-e-Con held at Hotel Fortune 24<sup>th</sup>-25<sup>th</sup> October 2015

#### **Oral Presentation:-**

- Gh Rasool Bhat, Itty Sethi, Amrita Bhat, Sonali Verma and Rakesh Kumar, **Telomere shortening is associated with Non-small cell lung cancer risk in population of Jammu and Kashmir (North India)** 5th International Conference on Recent Trends and Advancements in Engineering and Technology (ICRTAET) held in SMVDU from 25th – 26th October, 2018.
- Sonali Verma, Ruchi Shah, Amrita Bhat, Gh Rasool Bhat, Indu Sharma, Varun Sharma, Bhanu Sharma, Ajay Wakhloo, Sandeep Kaul, Vikas Heer, Deepak Abrol, Vijeshwar Verma, Rakesh Kumara. **Role of DNAH11 variants and their association with Ovarian Cancer in J&K region of India.**
- Sonali Verma, Amrita Bhat, Gh Rasool Bhat, V. Verma, Rakesh Kumar-**Genetic screening of XRCC1 Gene (Arg399Gln) in Normal and Ovarian Cancer females from Ethnic population of Jammu and Kashmir: A pilot study**–Women Science Congress September 1-3<sup>rd</sup> 2016
- Gh Rasool Bhat, Rakesh Kumar-Toxico-genomics and its relation with lung cancer-Environmental Pollution: “**Join the Race to Make the World a Better Place**” **On the Eve of Observance of World Environment Day-2016** June 4 -5, 2016
- Sonali Verma, Amrita Bhat, Gh Rasool Bhat, V. Verma, Rakesh Kumar, **Histopathological pattern of malignant ovarian lesions. ICRTAET, 2017**
- Sonali Verma, Amrita Bhat, Gh Rasool Bhat, V.Verma, Rakesh Kumar, **Genetic Analysis of hOGG gene (rs1052133) in Ovarian cancer females from Jammu and Kashmir region, AGOICON, 2016**

#### **Research Experience:**

- Member DST-FIST PPG

- Co-Coordinator: DBT-MSc Biotechnology Programme
- Attended-National Workshop-IIT Guwahati-Environmental Genomics and Genome Editing 23rd-27th 2021
- Organizing Secretary- World Congress on Reproduction Health with Emphasis on Reproductive Cancers, Infertility and Assisted Reproduction & 30th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF-2020), 14-16th Feb 2020
- Co-Convenor-International Conference on Applied Biology (ICAB 2019)
- Chairperson- ICRATET-SMVDU, Katra 16-18th Jan 2020
- Organized- National Workshop on “Trends in Genomics and Proteomics” on 29th March 2019.
- Organized-One day Brain Storming Session of Maternal and Child Health, sponsored by JKDST on 12th March 2019.
- Reviewer-8th Ramalingaswami conclave, NIPGR, New Delhi 14-17 Feb 2018
- Organized Two-day workshop on “Diagnostic Cytogenetics” 26-27th Feb. 2018, SMVDU
- Organized Two-day workshop on “Scientific Drawings for Biological Specimens” 20th and 21st Feb, 2018, SMVDU
- Co-organized two-day Crab-e-Con Thirtya held at Hotel Fortune Sep 9th and 10th 2017.
- Organizing Committee-JK Medical science Congress, SKICC, Srinagar (10-13th May 2017)
- Co-convenor-Two days National Symposium on “Recent Trends in Biotechnology and Drug Discovery” on 30th and 31st March 2017 SMVDU, Katra
- Organizer-One day National Workshop on “Scientific innovation and intellectual property rights” sponsored by Jammu and Kashmir science technology and innovation council on 27th March 2017 at SMVDU, Katra.
- Organizer-One day National Workshop on “Bio-molecular Visualization and Drug Discovery" sponsored by DBT, Govt. of India” on 17th March 2017 at SMVDU, Katra.
- Organizing Committee Member-National Science Day 28th Feb 2017, SMVDU, Katra
- Three Week-Refresher Course on Disaster Management by HRDC, Jammu University 7-29th Dec 2016.

- Co-organized and Organizing secretary of ONE day Crab-e-Con DWITYA held at Hotel Fortune Sep 3rd 2016.
- Organizer- Two days workshop on “Genomics, Proteomics and System Biology” on 10th and 11th March 2016
- Organizer- Two days advance workshop on “Applications of Flow Cytometry in Biomedical Research” was held in SMVDU from 18th -19th Feb 2016
- Attended two days workshop on IPR at Central University Jammu on 14th and 15th January 2016.
- Attended Indian international Science Festival-4-7th December 2015, IIT Delhi- Represented J&K State
- Co-organized and Organizing secretary of two-day Crab-e-Con held at Hotel Fortune 24th-25th October 2015.
- Attended workshop on “Bioinformatics-Approaches in OMICS Era” dated 10-11 March 2015
- Attended a Hands-on training workshop “Applications of the Mass array System”, on April 8-10 2015.
- Organized workshop on modern developments and applications in imaging techniques date- May 26-27, 2015.
- Organized and attended-Bioinformatics workshop -“Bioinformatics –approaches in OMICS Era” 10-11th March 2015
- Panel Member-Colloquium-Managing Cancer involving All Stake Holders-Organized by Radiation of Hope-4th Feb 2015, Hotel Fortune, Jammu
- Bioinformatics workshop organized and attended-Genomics and Proteomics-26-27th March 2014
- Senior Research Fellow at ICMR/AIIMS in New Delhi, India. (2006-2008)
- Research Assistant at ICMR/AIIMS in New Delhi, India. (2003-2006)
- Participated in “Genetics in Obstetrics” symposium as Resource Scientist conducted by DBT (Government of India). (April 7th, 2007)
- Participated in the fourth Workshop as resource scientist on Prenatal and Postnatal Diagnosis of Genetic Disorders using Molecular Methods. (January 14th-29th, 2006)

- Participated in the fourth Workshop on Prenatal and Postnatal Diagnosis of Genetic Disorders using Molecular Methods. (January 17th-31st, 2005)
- Participated in the third Workshop on Prenatal and Postnatal Diagnosis of Genetic Disorders using Molecular Methods. (March 16th-30th, 2004)
- Summer training at RRL Jammu (Department of Pharmacology), India on “In-vitro Screening of Anti-Cancer drugs and their possible molecular mechanism—Apoptosis.” (June-July 2002)

**PRESENTATIONS:**

- Invited Lecture- ICRTBAB-2023 (28th & 29th April 2023)-Sharda University, Noida India
- Invited lecture-Capacity building programme-18-19<sup>th</sup> August 22, University of Kashmir
- Invited Lecture-National Conference on Reproductive Health and disease 17<sup>th</sup> August 22, University of Kashmir
- Invited Lecture-Advances in Molecular diagnostics and precision Medicine (AMDP-2022) in association with Cancer-Con 2022-15<sup>th</sup> -17<sup>th</sup> September 2022-Anna University Chennai
- Invited Lecture-IFS-Paternal Genomics and recurrent Implantation Failure-6th August 2021-Webinar
- Invited Lecture-GDC Anantnag, Jammu and Kashmir, “Inculcating scientific temper and innovation among young minds-Major Challenges ”9th June 21- Webinar
- Invited Lecture-School of Philosophy, SMVDU-“Plagiarism and Scientific Ethics”3rd June 21- Webinar
- Invited Lecture- Department of Genetics-MDU Rohtak-Characterization of novel genomic alterations in Cancer among Indian populations-23rd Feb 21. Webinar
- Invited Lecture-Carrier Point University, Hamirpur, HP Cancer How and Why? Dr. Rakesh Kumar World Cancer Day-4th Feb 2021 Webinar
- Invited Lecture- Mitochondrial Genome and Ultrastructural Defects in Male Infertility, Global Conference on Reproductive Health with Focus on Occupational, Environmental and Lifestyle Factors during 22nd-24th February 2019 at JNU Convention Center, Jawaharlal Nehru University, New Delhi.
- Keynote Lecture- 5th-International Conference on Recent Trends and Advancements in Engineering and Technology (ICRTAET) to be held at Shri Mata Vaishno Devi University, Katra, India from 25-26 October 2018.
- Invited Lecture-Ayurveda and Human Health (SMVDU, Katra, 20th April 2018)



- Invited Lecture- National Seminar on "Recent Trends in Genomics & Metabolomics" on March 17-18th, 2017 at School of Biotechnology, Jammu University, Jammu.
- Invited Lecture-Refresher course on Life Sciences-HRDC Jammu University
- Invited lecture-Crab-e-Con held at Hotel Fortune 24th-25th October 2015
- Invited Lecture-J and K Science Congress-14-16th March 2015, Jammu University
- Invited lecture- International conference future and challenges on computational and integrated sciences, Nov. 7-8 14, Jalandhar, Punjab
- Invited Talk- MOF and histone H4 acetylation at lysine 16 are critical for DNA damage response and double-strand break repair-June 21, 2013,11:00 am. RCB, Gurgaon
- Invited lecture-37th Annual Conference of Environmental Society of India-KIIT University, Bhubaneswar Odisha, 23-26th Feb. 2012
- Invited lecture-Prevention Genetics, Marshfield, Wisconsin, USA 6TH -8TH Feb 2012
- Poster presentation -Dallas Multiplex-day-3rd Feb. 2012
- Poster presentation-DNA Damage response symposium-May 14-15 2011. Toledo, Ohio, USA
- Poster presentation in Neuro-Texas Translational Health Symposium in Austin, Texas, 2nd April 2011
- Poster presentation in PDA symposium, Feb 10-16 2011, UTSW, Dallas, Texas, USA.
- Oral presentation in International free radical satellite meeting (Feb. 11-12, 2008, in New Delhi, India).
- Oral presentation in Andrology Society of India, held at National Institute of Health and Family Welfare, Munirka, New Delhi (Dec. 15-16, 2007).
- Oral presentation in Recent advances and challenges in reproductive health research, from 19-21, February, 2007 (ISSRF-07) organized by ICMR/NIRRH, New Delhi.
- Poster presentation in International Symposium on Human Genomics and Public Health / XXXI Annual Conference of Indian Society of Human Genetics, February 27-March 1, 2006 New Delhi.

- Poster presentation in International Symposium on Stem Cells: Premises & Promises for Research & Therapeutics at Hotel Grand Hyatt, Mumbai, September 18-21, 2005
- Attended-Trends in Molecular and Applied Approaches to Reproduction and the 15th Annual Meeting of the Indian Society for the Study of Reproduction & Fertility. Organized by Indian Institute of Chemical Biology, Kolkata February 4-6, 2005.

### **Member of Center /Cell**

- Member-Research Review Committee, SMVDU
- Member-DST FIST Committee for SMVDU
- Co-coordinator DBT-PG Programme
- Nodal officer-MHRD-MGNCRE for SMVDU
- Member Secretary-Institute Ethics and Research Board (2021-24)
- Member Secretary, School Research Committee (2020-21)
- Convenor Biosafety Committee-SoBT-SMVDU-Katra
- Member-External Expert-Biosafety Committee-Central University of Jammu
- Member Secretary, School Research Committee (2018-19) (2020-21)
- Vice-President, Board of Cultural Activities, SMVDU
- Member of Nanotechnology Center-SMVDU, Katra
- Bureau Chief-CRAB (Cancer Research and Analysis Bureau) Matrika, Jammu and Kashmir
- Member Board of Studies, School of Biotechnology
- Coordinator-GATE entrance Committee

### **Research Training:**

- Radiation Safety Course (Qualified to use gamma-irradiator).
- Animal handling, breeding, and aseptic surgery.
- Environmental Health & Safety

- Occupational Health

**Reviewer**

- Journal of Human Reproduction
- Journal of Andrology
- Journal of Molecular Vision
- Andrologia
- Journal of Assisted Human Reproduction
- BMC Cancer
- Fuels
- Journal of Cell Biology
- JBMT
- JHRM

**Memberships:**

- American Association of Cancer Research (AACR)
- JK Society of Biologists
- ISSRF

**Extracurriculars:**

- Chair-Web committee-PDA, UTSW Medical center, Dallas, Texas, USA (2010).
- Hindi Puruskar (Award for penning and reciting poem about Hindi language on Indian national language Day), Hindi Day, AIIMS, India (2005).
- President of Human Genetics Society GNDU. Amritsar, India (2002-2003).
- Treasurer of Human Genetics Society GNDU. Amritsar, India (2001-2002).

**Supervision (PhD/MSc/B.Tech)**

Ph.D. Research Supervision:	
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S. No.	Name of the Student (s)	Registration Year and Status (Full Time/Part-time)	Title of the Topic	Co-Supervisors (If any)	Remarks	Present Position
1	Dr. Ashna Nagpal	08/2013 PT	Genetic perspective of DNA Damage in breast cancer		Awarded 20/11/20	
2	Dr. Sonali Verma	8/14 FT	Genetic Analysis of Ovarian Cancer Patients in Jammu and Kashmir Population	Prof. V. Verma	Awarded (04/09/19)	Scientist B-ICMR CAR-SMVDU, Katra
3	Dr. Amrita Bhat	8/14 FT	Advanced molecular analysis of Leukemia in North Indian population.		Awarded (22/09/20)	Faculty-Department of Human Genetics-University of Jammu
4	Dr. Gh. Rasool Bhat	8/14 FT	Genetic Characterisation of Non-Small Cell Lung Carcinoma in Patients from Jammu and Kashmir		Awarded (25/09/20)	Post-doctoral Fellow, Department of Genetics, University of Virginia, USA
5	Dr. Divya Bakshi	8/15 FT	Genetic Characterization of DNA Damage In Breast Tumorigenesis	Dr. Samantha Vashnavi.	Awarded 21/10/20	
6	Ms. Monika Pandita	8/14 FT	Investigation into the genetic interactions of glyoxylate pathway related f-box motif encoding gene <i>cc1</i> with certain genome stability regulators in <i>saccharomyces cerevisiae</i>	Dr. Rakesh Kumar	Submitted	
7	Ms. Bhanu Sharma	8/15 FT	Genetic characterization of colorectal cancer patients in Jammu and Kashmir Population	Dr. Samantha Vashnavi.	Submitted	
8.	Ms. Minerva	19DBT006 FT	Genetic and Epigenetic Characterization of Ovarian Carcinoma		In progress	
9.	Mr. Rajeshwar Singh Jamwal	20/FT	Characterization of DNA damage associated genes in non-small cell lung cancer		In progress	
10	Mr. Bhawani Sharma	20/FT	Role of Genetics in Male Infertility		In progress	
11	Ms. Pushpa Oraon	22/PT	Title not yet decided		In progress	

**INVESTIGATIONAL/DISSERTATION PROJECT (M.SC & B-TECH  
BIOTECHNOLOGY) 2013-20**

S.No	Title of the Project	Name of the students with entry No.		Name of the supervisor/Co-Supervisor	
		Name	Entry No.	Supervisor/s	Co-Supervisor/s
1	Genetic mutation in genes CALR and JAK2V617F which are responsible for Myeloproliferative Disorders	Sakshi Raina		Dr. Samantha Vaishnavi	Dr. Rakesh Kumar
2	Genetic mutation in genes CALR and JAK2V617F which are responsible for Myeloproliferative Disorders	Ankita Sharma		Dr. Rakesh Kumar	
3	Effect of Pig amniotic fluid as serum substitute in - vitrification solutions and maturation medium on meiotic maturation of dog oocytes	Aman Sharma		Dr. Rakesh Kumar	Dr. B. Samba Siva Rao (CCMB) Hyderabad
4	Characterization of XRCC1 gene in leukemia patients from Jammu and Kashmir population	Vaishali	14MBT19	Dr. Rakesh Kumar	
5	Genetic polymorphism in Base excision repair gene XRCC1 G>A Codon 399(Arg.Gln) in lung cancer patients from ethnic population of J&K -A pilot study	Urvashi Sangotra	14MBT20	Dr. Rakesh Kumar	
6	DNA damage and repair (XRCC1) mutation codon 399Arg.GLn in ovarian cancer patients of Jammu and Kashmir -A pilot study	Sonia Choudhary	14MBT05	Dr. Rakesh Kumar	
7	DNA damage and repair (XRCC1) mutation codon 399Arg.GLn in ovarian cancer patients of Jammu and Kashmir -A pilot study	Nayan Tiwari	2014BIB2	Dr. Rakesh Kumar	
8	Clinical strains of Mycobacterium Tuberculosis	Ms. Pehu Kohli	2013EBT10	Dr. Deepak K Saini/ Dr. Rakesh Kumar	
9	Variations in response regulator interactions due to prevalent mutations found in Clinical strains of Mycobacterium Tuberculosis	Ms. Upasana Gupta	15BIB008	Supervisor: Dr. Deepak K Saini IISc, Bangalore	Dr. Sharada Potukuchi & Dr. Rakesh Kumar
10	Underlying genetic mechanism of Ataxia telangiectasia.	Shilpa Raina	15MBT00	Dr. Rakesh Kumar	Arvind Yadav
11	Genetic polymorphism in nucleotide excision repair gene ERCC2/XPD A>C Codon 751 (Lyn-Gln) and its role in susceptibility to lung cancer patients from ethnic population of J&K A-PILOT STUDY	Sheetal	15MBT02	Dr. Rakesh Kumar	
12	Role of Myeloproliferative disorders XRCC1 in Breast Cancer	Shivam Shukla		Dr. Rakesh Kumar	
13		Ishan Tiwari		Dr. Samantha Vaishnavi	Dr. Rakesh Kumar
14	Genetic screening of ALS patients from Jammu region	Nipunta	15MBT025	Dr. Rakesh Kumar	

15	Telomere length variation and its role in lung cancer.	Minerva	16MBT005	Dr. Rakesh Kumar	
16	Gene expression analysis of PdtaS and PdtaR of two component system in Smegmatis	Kosheen Kamal	14BIB006	Dr. Rakesh Kumar	
17	GTP effect on Human and Rice Translin protein	Ms. Ananya Kher	17MBT002	Dr. Alka Gupta Bhabha Atomic Research Centre, Bombay	Dr. Rakesh Kumar
18	Characterisation of alpha synuclein aggregates	Ms. Dhanishta Sagotra	15BIB011	Dr. Swasti Raychaudhuri CCMB, Hyderabad	Dr. Rakesh Kumar
19	Isolation and Cloning of outer membrane protein in Synecosystis PCC 6803 and its protein characterization"	Ms. Vishali Sharma	17MBT022	Dr Rachna Agarwal, Bhabha Atomic Research Center, Mumbai	Dr. Rakesh Kumar
20	Bromodomain protein 4(BRD4) Isoforms Regulation by FUS in HeLa Cells. Effect of BRD4 Overexpression on alternative splicing of mini gene CD44 in HeLa cells	Priyanka Anand	17MBT015	Bhabha Atomic Research Center, Mumbai	Dr. Rakesh Kumar
21	The polyphosphate kinase (PPK) from the filamentous cyano bacterium Anabaena PCC 7120: Isolation , over expression and purification. 2.cloning over expression and characterization of Metal binding Domain (MBD) of PIB-Type ATPase in Chryseo bacterium sp. Strain PMSZPI	Diksha Devi	17MBT010	Dr. Celin Acharya Bhabha Atomic Research Center, Mumbai	Dr Rakesh Kumar
22	REV3L gene variants rs1002481, rs462779, and rs465646 lead to increased susceptibility towards non- small cell lung cancer in the population of Jammu and Kashmir	Ms. Nikita Mahajan	18MBT009	Dr. Arvind Kumar Yadav	Dr. Rakesh Kumar
23	REV3L gene variants rs1002481, rs462779, and rs465646 lead to increased susceptibility towards non- small cell lung cancer in the population of Jammu and Kashmir	Mr. Rajeshwar Singh	18MBT013	Dr. Rakesh Kumar	
24	Screening of exonic Variation of DNAH11 gene in ovarian cancer	Ms. Parul Pandita & Ms. Garima Slathia	18MBT012 & 18MBT032	SMVDU	Dr. Rakesh Kumar
25	Genetic analysis of rs462779 and rs11153292 of rev3l in leukemia patients from J&K region.	Ms. Anandita Malhotra	16BIB005	SMVDU	Dr. Rakesh Kumar
26	Genetic analysis of rs462779 and rs11153292 of rev3l in leukemia patients from J&K region.	Ms. Hinan	16BIB013	Dr. Arvind Kumar Yadav	Dr. Rakesh Kumar
27	"Potential role of PI3KCA gene and variant rs2699887 towards increasing the susceptibility of NSCLC in the Jammu and Kashmir population".	Ms. Sabra Praveen	19MBT019		Dr. Rakesh Kumar
28	To Investigate the Association Between Luteinizing hormone/ Choriogonadotropin receptor (LHCGR) gene polymorphisms and Polycystic Ovary Syndrome	Ms. Preetika	19MBT017		Dr. Rakesh Kumar
29	To Investigate the Association Between Luteinizing hormone/ Choriogonadotropin receptor (LHCGR) gene polymorphisms and Polycystic Ovary Syndrome	Ms. Meenakshi Thakur	19MBT010		Dr. Rakesh Kumar
30	Investigation of correlation between gene variant rs1056836(CYP1B1) and Non-Small Cell Lung cancer incidence in Jammu and Kashmir based population	Mr. Shubham Gupta		Dr. Rakesh Kumar	<b>Dr. Waheeta Hopper, M.Sc., PhD.</b> (Professor., Department of Biotechnology, SRM IST

