

Evaluative Report of the Department

Name of the University: University of Kashmir
Name of the Department: Department of Bioresources
District: Srinagar **State:** Jammu and Kashmir

Sl. No.	Name of the Department	Department of Bioresources		
1.	Year of Establishment	2007		
2.	Is the Department part of a School/Faculty of the University	School of Biological Sciences		
3.	Names of programmes offered	<ul style="list-style-type: none"> • M. Sc in Bioresources, • M. Phil., Ph.D. • Integrated Ph.D. 		
4.	Number of teaching posts Sanctioned/Filled		Sanctioned	Filled
		Professor	-	-
		Associate Professors	-	-
		Assistant Professors	03	03
		DST INSPIRE Faculty	01	1
5.	Number of Research Projects: Total grants received	Two Research Projects and amounting Rs. 80,000,00.00 (80 Lacs.)		
6.	Inter –institutional collaborative projects and Associated grants received			
	National collaboration	One collaborative project Grants received Rs. 40,04,768/-		
	International collaboration	NA		
7.	Departmental projects funded by DST-FIST, UGC-SAP/CAS,DPE, DBT, ICSSR, AICTE etc,; Total grants received	NA		
8.	Special research laboratories sponsored by /created by industry or corporate bodies	NA		
9.	Publications:			
	Number of Papers published	29		
	Number of Books with ISBN	6		
	Number of Citation Index – range / average	65-625 / 219		
	Number of Impact Factor – range / average	0.3-6.8 (2.0)		
	Number of h-index	12		
10.	Details of patents and income generated	NA		
11.	Areas of consultancy and income generated	NA		

12.	Awards/Recognitions received at the National and International level by :				
	Faculty		Dr. Peer Abdul Haseeb Shah DST-ISPIRE Faculty received Early Career Research Award (ECR/2016/000463) funded by SERB.		
	Doctoral/Post-doctoral fellows		Dr Manzoor A Mir, received Postdoctoral Research fellowship in Sheikh AbdullahBin Tuwaijiri Chair for Applied Research in Stroke (SATCAS) at Majmah University, KSA		
	Students		Ms Bisma Malik received Women Scientist Scheme Award (Wos-A (File No: SR/WOS-A/LS-1278/2015) Grant Amount: 20.4 Lakhs.		
13.	How many students have cleared Civil Services and Defence Services examinations, JRF NET, SET (SLET), GATE and other Competitive Examinations.				
	Civil Services	Defence Services	JRF-NET	SET	GATE
	01	02	01	00	00
14.	List of doctoral, post-doctoral students and research associates				
	From the host institution/university		Name of the scholar	Date of award	
			Tanveer Bilal	14-06-2017	
			Bisma Malik	18-09-2017	
	List of registered/enrolled doctoral students				
	S. No	Name of Student	Supervisor	Award/Fellowship	Year of enrolment
	1	Mr Fayaz Ahmad	Dr Reiaz ul Rehman	NA	2014
	2	Mr Aadil Rasool	Dr Reiaz ul Rehman	NA	
	3	Miss Wasifa Shah	Dr Reiaz ul Rehman	NA	
	4	Miss Asiya Ramzan	Dr Reiaz ul Rehman	NA	
	5	Mr Sajad Ahmad	Dr Reiaz ul Rehman	Project JRF	
	6	Miss Mehak Majeed	Dr Manzoor Ahmad Mir	JRF-NET	
	7	Mr Umar Mehraj	Dr Manzoor Ahmad Mir	JRF-NET	
	From other institutions/universities			Nil	
15.	Number of Research Scholars/ Post Graduate students getting financial assistance from the University/State/Central		Two PG students (Toppers) from each batch getting merit scholarship from University		
			Three Ph. D Scholars getting fellowship from Department.		

Evaluative Report of the Department

1. Name of the Department **Bioresources**

2. Year of establishment **2007**

3. Is the Department part of a School/Faculty of the university?

Faculty of Biological Sciences

4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)

- M. Sc in Bioresources,
- M. Phil., Ph.D.
- Integrated Ph.D.

5. Interdisciplinary programmes and departments involved

PG. Programme in Bioresources is run in the department with Choice Based Credit System in collaboration with other departments of the University.

6. Courses in collaboration with other universities, industries, foreign institutions, etc.

NA

7. Details of programmes discontinued, if any, with reasons.

NA

8. Examination System: Annual/Semester/Trimester/Choice Based Credit System

Choice Based Credit System (CBCS)

9. Participation of the department in the courses offered by other departments
Yes the students from our Department take part in the open elective courses offered by other department and vice versa.

Department of Food Technology

Department of Zoology

Department of Clinical Biochemistry

Department of Botany

Department of Biotechnology

Department of Disaster Management

Department of Chemistry

Department of Biochemistry

10. Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Asst. Professors/ others)

	Sanctioned	Filled	Actual (including CAS and MPS)
Professor	-	-	-
Associate Professors	-	-	-
Asst. Professors	03	03	-
Others	DST INSPIRE Faculty	01	-
	Contractual	02	-

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years	No. of M.Phil. students guided for the last 4 years
Dr. Manzoor Ahmad Mir	Ph. D JRF-NET	Assistant Professor	Animal Sciences Immunology	10 years	NA	-
Dr. Reaiz-ul-Rehman	Ph. D	Assistant Professor	Plant Biology	09 years	04	-
Mr. Sheikh Tajamul Islam	M. Phil NET	Assistant Professor	Plant Sciences	05 years	NA	-
Dr. Peer Abdul Haseeb Shah	PhD.	DST INSPIRE Faculty	Biotechnology, Fungal Pathogenesis	03 Years	NA	-

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

1. Prof. Javed N. Agrewala (IIT Ropar and IMTECH-CSIR)
2. Prof. A Hemantaranjan (BHU- Varanasi UP)
3. Prof. M Z Abdin (Jami Hamdard New Delhi)
4. Prof Arif Ali (Jamia Milia New Delhi)
5. Prof M. Afzal Zargar (Central University of Kashmir Srinagar)
6. Dr. Manoj Prasad (NIPGR-DBT New Delhi)
7. Dr. Zahoor Ahmad Parray (IIIM-CSIR Jammu/Srinagar)
8. Dr. Abid Hamid Dar (Central University of Kashmir Srinagar)
9. Dr. Mohammad Younis Rather (Govt Medical College Srinagar)
10. Dr. Nisar Ahmad Wani (Central University of Kashmir Srinagar)

13. Percentage of classes taken by temporary faculty – programme-wise information

PG Programme % of classes taken by temporary Faculty

30% of the classes taken by temporary faculty

70% of the classes taken by permanent faculty

14. Programme-wise Student Teacher Ratio

PG Programme in Bioresources

One teacher seven students to (1:7)

M.Phil/Ph.D.

One teacher to three students (1:3)

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Technical 01

Administrative 02

Sweeper 01

	Staff	Sanctioned	Filled	Actual
01	Technical	-	-	01
02	Administrative	-	-	02
03	Sweeper	-	-	01

16. Research thrust areas as recognized by major funding agencies

Drug resistance mechanisms in Pathogenic Fungi

Studies on underutilized crops (pseudo-cereals)

Targeting signalling pathway in Cancers using small molecules

Studies on stress tolerance in plants

Understanding molecular mechanism of Drug resistance in Mycobacterium Tuberculosis

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

One DST INSPIRE Faculty with two ongoing projects funded by national agencies:

S. No/ No.	Title	Funding Agency	Grant Value	Funding Agency
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1/ DST/INSPIRE/ 04/2015/00157 5	Drug resistance in fungi and the PTM of membrane proteins	Department of Science and Technology	35,00,000	Department of Science and Technology
2/ ECR/2016/0004 63	Clinical drug resistant strains of and drug tolerance	Science & Engineering Research Board (SERB)	45,00,000 (approx.)	Science & Engineering Research Board (SERB)

18. Inter-institutional collaborative projects and associated grants received

- a) National collaboration b) International collaboration

National

Collaboration with Sheri Kashmir Institute of Medical Sciences Soura Srinagar J&K. Project entitled "Clinical Drug Resistance strains of.....and drug tolerance (45 Lacs approx.)

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. NA

20. Research facility / centre with

- State recognition
- National recognition
- International recognition NA

21. Special research laboratories sponsored by / created by industry or corporate bodies

One PG Research laboratory created for PG students under RUSA

One Research laboratory created for Scholars under RUSA

22. Publications:

- * Number of papers published in peer reviewed journals (national / international)

29 publications

1. Samra Hafeez, Mahwish Urooj, Shamiala Saleem, Zeeshan Gillani, Sumaira Shaheen, Mahmood Husain Qazi, Muhammad Imran Naseer, Zafar Iqbal, Shakeel Ahmed Ansari, Absarul Haque, Muhammad Asif, **Manzoor Ahmad Mir**, Ashraf Ali, Peter Natesan Pushparaj, Mohammad Sarwar Jamal Mahmood Rasool BAD, a Proapoptotic Protein, Escapes ERK/RSK

Phosphorylation in Deguelin and siRNA-Treated HeLa Cells. Publication URL <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0145780>

2. Marta Mila, Marina Garriga, **Manzoor A Mir**, Raid Al-Baradie, Sonia Huertas, Cesar Castejon, Dolores Badenas, Laura Casas, Nuria Gimenez, Jose M Gonzalez, Maria Ysamat, Miquel Aguilar, Mark Slevin and Jerzy Krupinski ¹²³I-FP-CIT SPECT imaging, clinical diagnosis of common types of dementia and contribution of ischemia to brain damage *Frontiers in Systems Neuroscience July 2015: Vol 9 Article 99 PP 1-11* Publication URL: <http://journal.frontiersin.org/article/10.3389/fnsys.2015.00099/full>
3. **Manzoor A Mir** Raid S Albaradie Amal A Otaibi, and Jehan Y Elrazkey (2015) Effect of Supine Versus Semi-Fowler's Position on Hemodynamic stability of patients with Head injury. *World J of Phar Res.* Vol 4 Issue 4 pp 1559-1569 ISSN No. 2277-7105. Publication URL: <http://www.wjpr.net/download/article/1427890784.pdf>
4. **Manzoor A Mir** and Raid S Albaradie (2015) Inflammatory Mechanisms as Potential Therapeutic Targets in Stroke *Advances in Neuroimmune Biology* 5 (2014) 199–216 ISSN No. 1878-948X (P) 1878-9498 (O) Publication URL: <http://iospress.metapress.com/content/c80h12l5l7r68097/?p=a770de5e3ec3426580f36714f0c799da&pi=0>
5. Mir MA (2014) TNF Receptor Modulation by Gentiana Extracts Acts as Neuroprotective Mechanism in Stroke by Enhancing Cellular Survival. *Stroke* 2014; 45(12) e26 (e259-e298) Publication URL: <http://stroke.ahajournals.org/content/early/2014/11/04/01.str.0000455918.04147.bf.full.pdf>
6. **Manzoor A Mir** Abdul R Alharbi and Raid S Albaradie (2014) Modulation of inflammatory and oxidative mechanisms by Gingko biloba extract in an in vitro murine model of ischemia to augment neuroprotection and cellular survival. *Int. J. Curr. Res.* Vol. 6, Issue, 04, pp.6277-6287. ISSN No. 0975-833X. Publication URL <http://www.journalcra.com/sites/default/files/5182.pdf>
7. **Manzoor A Mir** Immunotherapy by reverse signaling inhibits the growth of Intracellular pathogens and cancer cells *Proceedings of International Research Conference on Engineering, Science and Management, At Trident International Convention Centre Dubai UAE 2014 4th-5th June vol. 1(1) 55-60.*
8. **Manzoor A Mir** and Raid S Albaradie (2014) Inflammation and anti-inflammatory strategies in stroke. ISSN 2277-7105 *World J of Phar Res.* Vol 3 Issue 4 pp 361-395. Publication URL: <http://www.wjpr.net/download/article/1403090226.pdf>
9. **Manzoor A Mir**, Raid S Albaradie and Agrewala JN. (2013) Innate-effector immune response elicitation against tuberculosis through Anti-B7-1 (CD80) and Anti-B7-2 (CD86) signaling in macrophages. *IJBPAS*, May, 2013, 2(5): 1024-1043 ISSN No. 2277–4998. Publication URL: <http://ijbpas.com/pdf/1366970831MS%20IJBPAS%202013%201450.pdf>

10. **Manzoor A Mir** and Raid S Albaradie. Tuberculosis time bomb a global emergency: urgent need for alternative vaccines. *Majmaah J. Health Sciences* 2013. Vol. 1 No. 1 Pp 87-93. ISSN: 1658-645X Publication URL: <http://www.mu.edu.sa/sites/default/files/11.%20Manzoor%20%2884-89%29.pdf>

11. Fayaz Ahmad Dar, Susheel Verma, **Reiaz Ul Rehman** (2016). Genetic Diversity Assessment of *Phaseolus vulgaris* L. in Two Himalayan Districts of India. Proceedings of National Academy of Sciences. **Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci. DOI 10.1007/s40011-016-0742-y**

12. Rui Malho, Susana Serrazina, Laura Saavedra, Fernando Vaz Dias, **Reiaz Ul Rehman** (2015). Ion and Lipid signaling in apical growth-a dynamic machinery responding to environmental cues. **Frontiers in Plant Science. doi: 10.3389/fpls.2015.00816. (IF3.9).**

13. Tanveer Pirzadah, Shashank Garg, Joginder Singh, Ashish Vyas, Manish Kumar, Naseem Gaur, Madhu Bala, **Reiaz Rehman**, Ajit Varma, Vivek Kumar and Manoj Kumar. (2014) Characterization of Actinomycetes and Trichoderma spp. for cellulase production utilizing crude substrates by response surface methodology. **SpringerPlus, 3:622**

14. Tanveer Bilal, Bisma Malik, **Reiaz ul Rehman**, Manoj Kumar (2015). Influence of various parameters on cellulase and xylanase production by different strains of *Trichoderma species*. *Austin Journal of Analytical Chemistry and Pharmaceutical Science*, 2 (1): 1034.

15. Tanveer Bilal Pirzadah, Bisma Malik, Inayatullah Tahir, **Reiaz ul Rehman**. 2013. Buckwheat: An introspective and future perspective with reference to Kashmir Himalayas. *Proc. 12th Intl. Symp. Laško, Slovenia*. pp. 212-215. ISBN 978-961-93535-1-6

16. **Manzoor A Mir**, Agrewala JN and Raid S Albaradie. (2013) Innate-effector immune response elicitation against Tuberculosis through anti-B7-1 and anti-B7-2 signaling in macrophages. *IJBPAS*, May, 2013, 2(5): 1024-1043 5.

17. **Manzoor A Mir** and Raid S Albaradie. (2013) Tuberculosis time bomb a global emergency: need for alternative vaccines. *Majmaah J. Health Sciences*, 2013 – Vol. 1, No. 1.

18. Redhu AK, **Shah AH** and Prasad R. MFS transporters of Candida species and their role in clinical drug resistance. *FEMS Yeast Research*. DOI: <http://dx.doi.org/10.1093/femsyr/fow043>. First published online: 1 May 2016 fow043

19. Rawal MK, Banerjee A, **Shah AH**, Khan MF, Sen S, Saxena AK, Monk BC, Cannon RD, Bhatnagar R, Mondal AK and Prasad R. Newly identified motifs in Candida albicans Cdr1 protein nucleotide binding domains are pleiotropic drug resistance subfamily-specific and functionally asymmetric. *Sci Rep*. 2016 (accepted on 13th May-2015; MS ID, SREP-15-29265A)

20. Aadil Rasool, Wasifa Hafiz Shah, Inayatullah Tahir, **Reiaz Ul Rehman** "Salicylic Acid – A mitigating agent for conferring stress tolerance in plants" (Manuscript No. Advpp-18 2017-18/IARI/017) Volume 18, **Advances in Plant Physiology** Series [ISSN: 0972-9917].
21. Wasifa Hafiz Shah, Aadil Rasool, Inayatullah Tahir, **Reiaz Ul Rehman** "Non-Reducing Sugars for combating plant abiotic stresses" (Manuscript No. Advpp-18 2017-18/IARI/18) Volume 18, **Advances in Plant Physiology** Series [ISSN: 0972-9917].
22. Tanveer Bilal Pirzadah, Bisma Malik, Inayatullah Tahir, Qureshi M. Irfan & Reiaz Ul Rehman (2017) Characterization of mercury-induced stress biomarkers in *Fagopyrum tataricum* plants, *International Journal of Phytoremediation*, 20:3, 225-236, DOI: [10.1080/15226514.2017.1374332](https://doi.org/10.1080/15226514.2017.1374332) Taylor and Francis **IF 2018 (1.770)**
23. Bisma Malik, Tanveer Bilal Pirzadah, Inayatullah Tahir, **Reiaz ul Rehman** (2017). Chemo-profiling, Antioxidant potential and Ionomeric analysis of *Cichorium intybus* L. *Pharmacognosy Journal*. 9 (6): 917-928. doi:10.5530/pj.2017.6.144. ISSN:0975-3575 SCOPUS
24. Tanveer Bilal Pirzadah, Bisma Malik, Inayatullah Tahir, **Reiaz Ul Rehman** (2017). Antioxidant potential and Ionomeric analysis of two buckwheat species from Kashmir region. *Pharmacognosy Journal*. 9(1): 73-82. Doi: 10.5530.pj.2017.14 ISSN:0975-3575 SCOPUS
25. Bisma Malik, Tanveer Bilal Pirzadah, Malik Zainul Abidin, **Reiaz ul Rehman** (2017) Somatic embryogenesis pattern and embryoid formation in chicory (*Cichorium intybus* L.). *Journal of Agricultural Technology*. 13 (1): 91-104.
26. Padder SA, Prasad R, **Shah AH**. Quorum sensing: A less known mode of communication among fungi. *Microbiol Res*. 2018;210:51-58.
27. Prasad R, Banerjee A, Shah AH. Resistance to antifungal therapies. *Essays Biochem*. 2017;61(1):157-166.
28. Banerjee A, **Shah AH**, Redhu AK, Moreno A, Falson P, Prasad R W1038 near D-loop of NBD2 is a focal point for inter-domain communication in multidrug transporter Cdr1 of *Candida albicans*. *Biochim Biophys Acta*. 2018;1860(5):965-972.
29. Redhu AK, Banerjee A, **Shah AH**, Moreno A, Rawal MK, Nair R, Falson P, Prasad R. Molecular Basis of Substrate Polyspecificity of the *Candida albicans* Mdr1p Multidrug/H⁺ Antiporter. *J Mol Biol*. 2018;430(5):682-694

* Monographs

NA

* Chapters in Books

19

Serial wise chapters In Internationally edited books

1. **Rehman, R.U.**, Hakeem, K.R., Tahir I, Teli, M.A (2013). Variability in *Fusarium* Species causing wilt disease in crops: A transcriptomic approach to characterize dialogue between host and pathogen. In *Crop Improvement New Approaches And Modern Techniques*. Ozturk M et al., (eds) Springer science + Business Media LLC, NY, USA (In Press) XXVII, 494 p. ISBN 978-1-4614-7028-1(e-book); ISBN 978-1-4614-7027-4(Hard cover)
2. Hakeem, K.R., Chandna, R., **Rehman, R.U.**, Tahir, I and Iqbal M (2012). *Unravelling Salt Stress in Plants through Proteomics* In *Salt stress in plants: Signalling, Omics and Adaptations*. (2012), Ed. Parvaiz Ahmad, Azooz MM, Prasad M.N.V .Springer science + Business Media LLC, NY,USA.ISBN 978-1-4614-6107-4.
3. **Reiaz ul Rehman**. Cyclic nucleotide gated channels-Essential signalling components in plants for fertilization and immunity responses Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman,Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7Hardcover.
4. **Reiaz ul Rehman**, Gian-Pietro Di Sansebastiano . Plant Rab GTPases in membrane trafficking and signaling Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman,Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7Hardcover.
5. **Reiaz ul Rehman**, Gian-Pietro Di Sansebastiano SNARE proteins as signalling elements.Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman, Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7 Hardcover.
6. Bisma Malik, Tanveer Bilal Pirzadah, Inayatullah Tahir, **Reiaz ul Rehman** , M.Z.Abdin Plant signaling: response to reactive oxygen species.Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman,Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7 Hardcover.
7. Tanveer Bilal Pirzadah, Bisma Malik, Khalid ul Rehman Hakeem, **Reiaz ul Rehman**, Irfan Ahmad Quershi Signaling in response to cold stress.Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman,Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7,Hardcover.
8. Khalid Rehman Hakeem, Muhammad Sabir, Faheema Khan, **Reiaz ul Rehman**. Nitrogen regulation and signalling in plants.Edited volume on "*Plant Signalling: Understand molecular cross talk*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Reiaz Ul Rehman,Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7 Hardcover.

9. Tanveer Bilal Pirzadah, Bisma Malik, Manoj Kumar, **Reiaz Ul Rehman**. Lignocellulosic biomass: As future alternative for bioethanol production. Edited volume on "*Biomass and Bioenergy: Processing, Properties and Applications*". Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: Dr. Khalid Rehman Hakeem, Dr. Mohammad Jawiad, Dr. Umer Rashid. ISBN 978-3-319-07578-5 (ebook) ISBN 978-3-319-07577-8(Hardcover).
10. Tanveer Bilal Pirzadah, Bisma Malik, Inayatullah Tahir, Manoj Kumar, **Reiaz Ul Rehman** (2014). Phytoremediation: An eco-friendly green technology for pollution prevention, control and remediation. Soil remediation and plants Publisher: Elsevier ISBN 9780127999371.
11. Bisma Malik, Tanveer Bilal Pirzadah, Inayatullah Tahir, **Reiaz Ul Rehman** (2014). Recent trends and approaches in phytoremediation. Soil remediation and plants. Publisher: Elsevier ISBN 9780127999371.
12. Bisma Malik, Tanveer Bilal Pirzadah, Sheikh Tajamul Islam, Inayatullah Tahir , Manoj Kumar, **Reiaz Ul Rehman** (2015). Biomass pellet technology: A green approach for sustainable development. Edited volume on "Agricultural biomass based potential material" ISBN: 978-3-319-13846-6. Springer International.
13. Manoj Kumar, Pooja Bhadrecha, Tanveer Bilal Pirzadah, Bisma Malik, **Reiaz Ul Rehman** , Ram Prasad ,Umesh Chandra Pachouri (2015). Power Reservoirs of Jumble based Biomass in Asia. Edited volume on "Agricultural biomass based potential material" ISBN: 978-3-319-13846-6. Springer International.
14. Tanveer Bilal Pirzadah, Bisma Malik, Sikandar Farooq, Inayatullah Tahir, **Reiaz Ul Rehman** (2016). Cultivation, Agronomic practices and growth performance of Buckwheat. Edited vol. on "Molecular Breeding and Nutritional Aspects of Buckwheat" By Meiliang Zhou, Ivan Kreft, Sun-Hee Woo, Nikhil Chrungoo and Gunilla Wieslander. Elsevier Publications. ISBN NO.:0128037148, 9780128037140
15. Bisma Malik, Tanveer Bilal Pirzadah, Inayatullah Tahir, Imtiyaz Murtaza, Reiaz Ul Rehman (2015). Phenomics Science: An integrated inter-disciplinary approach for crop improvement. Apple Academic Press Inc. 9 Spinnaker Way Waretown, NJ 08758 USA. **HardISBN:** 9781771884556; **E-Book ISBN:** 9781771884563
16. Bisma Malik, Tanveer Bilal Pirzadah, Manoj Kumar, **Reiaz Ul Rehman** (2017) Biosynthesis of Nanoparticles and their application in pharmaceutical industry. Springer International. DOI: 10.1007/978-981-10-4678-0_13.
17. Tanveer Bilal Pirzadah, Bisma Malik, Manoj Kumar, **Reiaz Ul Rehman** (2017). Cellulases: Industrial workhorse in bioenergy sector. Springer International DOI: 10.1007/978-981-10-4678-0_13.
18. Fayaz Ahmad Dar, Tanveer Bilal Pirzadah, Bisma Malik, Inayatullah Tahir, **Reiaz Ul Rehman** (2017) Molecular genetics of buckwheat and its role in crop improvement. In Buckwheat germplasm in the world. By Meiliang Zhou, Ivan Kreft, Yu Tang, Galina Suvorova. Elsevier Publications. Elsevier Publication. ISBN: 9780128110065.
19. Tools and Techniques to Study Multidrug Transporters of Yeasts. AH Shah , S Shukla, R Prasad*. In: Varma A., Sharma A. (eds) Modern Tools and Techniques to Understand Microbes. Springer, Cham 2017; 183-207

* Edited Books

6

* Books with ISBN with details of publishers

1. **Manzoor A Mir and Raid S Albaradie (2015) *Natural Herbs in the Prevention and treatment of Stroke* Nova Science Publishers USA. ISBN: 978-1-63483-555-8. 2015 Pp; 250. .**
https://www.novapublishers.com/catalog/product_info.php?products_id=55796&osCsid=f566022b445eb0546de60be510a3666b
 2. **Manzoor A Mir (2015) *Developing Costimulatory Molecules for Immunotherapy of Diseases* Elsevier Publishers USA ISBN (Print)**
ISBN (ebook) 9780128026755: 978-0-12-80-2585-7 26th May 2015, Pp 322 Publication URL:
<http://store.elsevier.com/Developing-Costimulatory-Molecules-for-Immunotherapy-of-Diseases/Manzoor-Ahmad-Mir/isbn-9780128026755/>
 3. **Manzoor A. Mir, Raid S Albaradie and Malik D Alhusainwi (2014) *Recent Advances in Stroke Therapeutics*. ISBN: 978-1-62808-521-4 (P), e-book ISBN: 978-1-63117-754-5 April 2014 Nova Biomed. Inc. USA. April, 2014. pp 1-252. Publication URL:**
https://www.novapublishers.com/catalog/product_info.php?products_id=49332&osCsid=4c7e974c9cae59f2482a5ede69ff5af5
 4. **Manzoor A Mir, Raid S Albaradie and Abdul R Alharbi *Costimulation Immunotherapy for Autoimmunity, Transplantation and Lymphomas: 2013* ISBN:978-1-62808-519-8 Nova Science Publishers USA Publication URL:**
https://www.novapublishers.com/catalog/product_info.php?products_id=46107&osCsid=4c7e974c9cae59f2482a5ede69ff5af5
 5. Edited volume on “Plant Signalling: Understand molecular cross talk”. Publisher: Springer Science+Business Media, LLC; 233 Spring Street, New York, NY 10013, USA. Editors: **Dr. Reiaz Ul Rehman**, Dr. Khalid Rehman Hakeem, Prof. Inayatullah Tahir ISBN 978-81-322-1542-4 online, ISBN 978-81-322-1541-7 Hardcover.
 6. Edited Volume on “**Polyploidy: Recent Trends and Future Perspectives**”. Editors Tanveer Ul Hasan Dar, Reiaz Ul Rehman (2017) Publisher: Springer ISBN 978-81-322-3772-3 <http://www.springer.com/in/book/9788132237709>
- * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
 - * Citation Index – range / average (2.3-4.8)
 - * SNIP NA
 - * SJR NA
 - * Impact Factor – range / average 0.3-6.8 (2.0)
 - * h-index (12)

23. Details of patents and income generated

NA

24. Areas of consultancy and income generated

NA

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad.

Dr Reiaz ul Rehman selected for international Travel Grant in the year 2013 for IBRA at Lasko Slovenia

Dr Manzoor Ahmad Mir selected for International travel grant through UGC-12th plan to Nanjing China in the year 2016

Dr Reiaz ul Rehman selected for National travel grant through UGC-12th plan to Jamia Millia Islamia New Delhi in the year 2017

Dr Manzoor Ahmad Mir Selected for SATCAS Project at Majmaah University KSA in the year 2013.

Dr Reiaz ul Rehman selected for international conference ENPER Lecce-Italy in the year 2014

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr. Reiaz Ul Rehman Member of American Society of Plant Biology (ASPB)

Dr Manzoor Ahmad Mir Member Indian Immunology Society (IIS)

Dr Peer A Haseeb Shah Member American Society of Microbiology (ASM)

Dr Manzoor Ahmad Mir Member Zoological Society of India (ZSI)

Dr Peer A Haseeb Shah Member Society of Biological Chemists India (SBCI)

Dr Peer A Haseeb Shah Member International Society of Human and Animal Mycology (ISHAM)

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

List of Training courses by the Faculty members of Bioresources Department from 2012-2018

<i>S. No</i>	<i>Name of Faculty Member</i>	<i>Name of training course</i>	<i>Year, month and time period</i>	<i>Place of training course</i>
1	Dr Manzoor Ahmad Mir	<i>Orientation Course</i>	<i>01-02-2011 to 01-03-2011</i>	<i>UGC ASC Aligarh Muslim University</i>
		<i>Refresher Course in Research Methodologies</i>	<i>16-01-2012 to 08-02-2012</i>	<i>UGC ASC University of Kashmir</i>
		<i>Refresher Course in Bioscience</i>	<i>15-05-2017 to 03-06-2017</i>	<i>UGC-HRDC University of Kashmir</i>
		<i>Refresher Course in Molecular Biology of Cell</i>	<i>23-10-2017 to 06-11-2017</i>	<i>Indian National Science Academy</i>
2	Dr Reiaz UL Rehman	<i>Orientation Course</i>	<i>22-02-2013 to 21-03-2013</i>	<i>UGC ASC Aligarh Muslim University</i>
		<i>Refresher Course</i>	<i>08-12-2013 to 30-12-2015</i>	<i>UGC ASC Jamia Milia Islamia</i>
		<i>Refresher Course in Bioscience</i>	<i>15-05-2017 to 03-06-2017</i>	<i>UGC-HRDC University of Kashmir</i>
3	Mr. Sheikh Tajamul Islam	<i>Orientation Course</i>	<i>17-02-2014 to 17-03-2014</i>	<i>UGC-HRDC University of Kashmir</i>
		<i>Refresher Course</i>	<i>11-02-2016 to 02-03-2016</i>	<i>UGC-HRDC University of Kashmir</i>

28. Student projects

- ☐ percentage of students who have done in-house projects including inter-departmental projects

100% students of the each final semester

- ☐ percentage of students doing projects in collaboration with other universities / industry / institute

20% students have done projects as part of the curriculum

29. Awards / recognitions received at the national and international level by

- ☐ Faculty
Dr. Peer Abdul Haseeb Shah received Early Career Research Award (ECR/2016/000463) funded by SERB.
- ☐ Doctoral / post doctoral fellows : Dr Manzoor A Mir, two years Postdoctoral Research fellow at Majmah University KSA.
- ☐ Students

Women Scientist (WOS-A): Miss Bisma Malik joined as WOS-A in the year 2017.

National Post Doc Fellow: Miss Arifa Jan Joined as NPDF in the year 2017

Miss Mehak Majeed received Junior Research Fellowship (JRF-NET) in the year 2018

Miss Sadaq Bhat received DST INSPIRE Fellowship in the year 2017

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

One day Seminar on Recent advances in Tuberculosis organised

31. Code of ethics for research followed by the departments

Ethical Committee of Department is taking care of the ethical issues of the Bioresources Department regarding Research activities.

32. Student profile programme-wise:

Name of the Programme	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
(refer to question no. 4)					
PG Programme 2012	94	09	10	100%	100%
PG Programme 2013	156	05	15	100%	100%
PG Programme 2014	142	05	16	100%	100%
PG Programme 2015	135	07	13	100%	100%
PG Programme 2016	166	04	15	NA	NA
PG Programme 2017	132	03	17	NA	NA
PG Programme 2018	NA	NA	NA	NA	NA

33. Diversity of Students (5 years)

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
PG Programme 2012	100%	-	-	-
PG Programme 2013	100%	-	-	-
PG Programme 2014	100%	-	-	-
PG Programme 2015	100%	-	-	-
PG Programme 2016	100%	-	-	-
PG Programme 2017	100%	-	-	-
PG Programme 2018	NA	-	-	-

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

(DST Inspire Fellow-01-2016)

(NET-01-2017)

(JRF-NET-01-2017)

35. Student progression

Student progression	Percentage against enrolled
UG to PG	120
PG to M.Phil.	08
PG to Ph.D.	07
Ph.D. to Post-Doctoral	NA
Employed	26
<input type="checkbox"/> Campus selection	NA
<input type="checkbox"/> Other than campus recruitment	26
Entrepreneurs	02

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	25%
from other universities within the State	0%
from universities from other States	75%
from universities outside the country	0%

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period

NA

38. Present details of departmental infrastructural facilities with regard to

- a) Library (Available Jointly for Botany and Bioresources Department)
- b) Internet facilities for staff and students Wifi Available for all
- c) Total number of class rooms 02
- d) Class rooms with ICT facility 01
- e) Students' laboratories 01 (Newly created under RUSA)
- f) Research laboratories 01 (Newly created under RUSA)

39. List of doctoral, post-doctoral students and Research Associates

- a) from the host institution/university (02)
- b) from other institutions/universities NA

40. Number of post graduate students getting financial assistance from the university.

02 students from each batch getting merit Scholarship from the University

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. Yes

The need assessment exercise was taken by Department of Botany and in order to tap the rich Bioresources (Plant, Animal and Microbial resources) of the Kashmir Himalayas and to preserve them the new programme of Bioresources was undertaken at PG/M.Phil/Ph. D levels.

42. Does the department obtain feedback from

- a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? **Yes**

Feedback is collected through mails, forms, online pages and SMS services. Faculty takes note of feedback and thoroughly discuss them point wise in departmental meetings and try to find the solutions by implementing the positive feedback. Department tries to fix the issues through consultation with higher ups and with administration. Department also forms the special committees to address the issues if there are any.

- b. **Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?**

Feedback was positively utilised by implementing the relevant suggestions

- c. **Alumni and employers on the programmes offered and how does the department utilize the feedback?**

Feedback was positively utilised by implementing the relevant suggestions

43. List the distinguished alumni of the department (maximum 10)

1. Mr. Mohd Umer Aftab Bank Associate in J&K Bank umeraftab444@gmail.com
2. Mr. Syed Sami Kozger (Enterprenuer) samisayeedk@gmail.com
3. Mr. Tanveer Bilal Peerzada (Faculty at Hr Education J&K Govt) pztanveer@gmail.com
4. Miss. Bisma Malik (Women Scientist- WOS-A) bisma767@gmail.com
5. Miss Asiya Ramzan (Researcher at Kashmir University) bhatasiya329@yahoo.in
6. Miss Rubeena Ashraf (Govt Teacher) Rubeenaa87@gmail.com
7. Miss Wasifa Shah (Researcher at Kashmir University) wasifashah9@gmail.com
8. Miss Mehak Majeed- Junior Research Fellow mehakmajeed995@yahoo.com
9. Mr. Suhail Ahmad (Enterprenuer) suhail67@gmail.com
10. Mr. Aadil Rasool (Researcher at Kashmir University) aadilrasool66@gmail.com
11. Mr. Basharat Ahmad (Researcher at BGSB University) basharatm435@gmail.com
12. Mr. Sajad Ahmad Padder (Researcher at Kashmir University) sajad993@gmail.com
13. Miss Misbah (Employee in J&K Bank) misbah673@gmail.com
14. Mr. Irfan Baba (Police Official in J&K Police) irfanb764@gmail.com
15. Mr. Zahoor Ahmad (Officer in J&K Police) zahoorkp@gmail.com
16. Mr. Fayaz Ahmad (Bank Executive at J&K Bank) dfayaz5u@gmail.com
17. Mr Bashir Ahmad Sheikh (Teacher at J&K Govt) sheikhbashir83@gmail.com
18. Miss Romaisa Beigh (Teacher at J&K Govt) beigh88romaisa@gmail.com
19. Miss Kaiserun Nisa (Teacher at J&K Govt) knisa86@gmail.com

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Students participate in Special lectures related to the Subject in and outside the University

Students participate in the seminars, workshops and conferences in the university as well as in outside institutes.

Special lectures are organised for students within the department by inviting speakers from other departments of the university and outside institutes

45. List the teaching methods adopted by the faculty for different programmes.

Problem based Learning Education, Practical/Lab Work, Field Tours, Dissertations, Tutorials and Project Work

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Feedback from students and Continuous Comprehensive Evaluation strategy

47. Highlight the participation of students and faculty in extension activities.

- Field trips to various locations for hands on experience
- Visit to different industries, Farms and Parks
- Visits to National and local Research Institutes

48. Give details of “beyond syllabus scholarly activities” of the department.

Field trips for hands on experience
Visit to industries, Farms and Parks

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Accredited previously by NAAC with the department of Botany in 2012.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

01 Complete MOOCs series developed with EMMRC for UG students

35 e-contents developed by faculty members for undergraduate level

29 International papers Published during the assessment period.

06 international Books Published during the assessment period

19 Book Chapters Published during the assessment period

03 new Projects sanctioned to the faculties of the department

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Five major Strengths, Weaknesses, Opportunities and Challenges:

1. Innovative programme of interdisciplinary nature with focuss on the Bioresources conservation and utilization of the biodiversitically rich region of J&K especially the Kashmir Himaliyas.
2. Highly talented Faculty with Good research/teaching experience. Being an interdisciplinary course based on available bioresources, department has lot of unexplored potential which can be utilized for further research
3. Insufficient infrastructure for teaching and research activities. Lack of appropriate Laboratories for carrying out the practical work. Insufficient classes and Library space
4. Lack of Animal House Facility in the department.
5. Insufficient Faculty (only three permanent faculty members presently) and Technical staff (only two permanent technical/administrative staff members)

52. Future plans of the department.

- The department is trying its best to improve the current infrastructure and in this regard one students Laboratory and one research laboratory has been created under RUSA.
- Improve research funding for the Department of Bioresources and in this direction six research projects have been submitted to various funding agencies like SERB-DST and DBT.
- Developing National and international collaborations with some reputed national and international research institutes.
- Start the Bioresources as a separate subject at the undergraduate and secondary school levels and in this regard Bioresources was introduced as a separate subject at undergraduate level and ten permanent faculty positions have been created and advertised by JKPSC.
- Improve the strength of faculty and non-teaching technical/supportive staff.
- Applying for FIST grant on priority basis

Dr. Manzoor Ahmad Mir
Incharge Nodal Officer DIQA
Department of Bioresources

Prof. Inayatullah Tahir
Coordinator
Department of Bioresources