SRM UNIVERSITY DELHI-NCR, SONEPAT, HARYANA
FACULTY APPRAISAL FORM

Appraisal period: 1st July 2024 to 30th June 2025

GUIDELINES:

- The information provided should be accurate and clear. Additional information, if any, worth mentioning may be provided in a separate sheet.
- The Faculty must read the **Performance Appraisal Form** before filling it.

SECTION –A: PERSONAL INFORMATION

Name	**Prof Arpana Vibhuti**
Employee ID	**41180002**
Date of Birth	**01/11/1979**
Designation	**Professor & Head**
Department	**Biotechnology & Microbiology**
Date of Joining (SRMUH)	**02.09.2014**
Experience	Total Experience…20…Years……6….Months SRMUH……11… …..Years……1….Months
Salary	Pay Scale : 40,890/- AGP : 10000 Gross Salary: 1,17,047/-

ACADEMIC PERFORMANCE INDICATORS (APIs)

CATEGORY-I: TEACHING LEARNING AND EVALUATION ACTIVITIES (50)

A-Teaching-Learning (20)

Sl. No.	Course Name & Code	Credits	Course File	Lab Manuals (if applicable)	Pedagogy	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
	Omics for BME 21BMP61	3	Y		Lecture, Presentation & Discussion			
	Molecular Biology 23BMP515	3	Y		Lecture, Presentation & Discussion			
	Genomics & Proteomics 21MBM201	3	Y		Lecture, Presentation & Discussion			
	Molecular Biology Lab 23BM454	2		Y	Experiment, Demonstration & Discussion			
	Progressive Res in Life Sci 21RES711	4	Y		Lecture, Presentation, Hands on & Discussion			

	Microbiology 21BM304	4	Y		Lecture, Presentation & Discussion				
	Presentation Lab 21BM858	1		Y	Experiment, Demonstration & Discussion				
	Seminar Research Paper & Technical W 21MBM355	2		Y	Presentation, Writing Skill & Discussion				
	Microbiology 21MBM101	3	Y		Lecture, Presentation & Discussion				
	Microbiology Lab21MBM151	2		Y	Experiment, Demonstration & Discussion				
	Project Work 21MSM452	2		Y	Experiment, Demonstration & Discussion				
	Minor Project 21MBM356	1		Y	Experiment, Demonstration & Discussion				
					Average	**20**			

(NOTE: Full credits 4 Marks and Half credits 2 Marks)

B-Assessment & Evaluation (15)

Sl. No.	Evaluation Parameters	Course Name	Credits	Level of Questions	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	Assignments	Genomics & Proteomics Microbiology Microbiology Lab Genomics & Proteomics Microbial Technology Lab Progressive Res in Life Sci Microbiology Microbiology Lab	18	E/M/C	3		
2	Quiz/Surprise Tests/Presentation	Genomics & Proteomics Microbiology Microbiology Lab Genomics & Proteomics Microbial Technology Lab Progressive Res in Life Sci Research Paper Presentation Microbiology Microbiology Lab	19	E/M/C	3		
3	Projects	Project Work	7	NA	3		
4	MSTs	Genomics & Proteomics Microbiology Microbiology Lab Genomics & Proteomics Microbial Technology Lab Research Paper Presentation Microbiology Microbiology Lab Project Work	25	E/M/C	3		
5	End Semester Examination	Genomics & Proteomics Microbiology Microbiology Lab Genomics & Proteomics Microbial Technology Lab	26	E/M/C	3		

		Progressive Res in Life Sci Research Paper Presentation Microbiology Microbiology Lab Project Work					
				Average	15		

(NOTE: Each point carries 3 marks)

C-Academic Results (Learning Outcome) (5)

Sl. No.	Courses	Credits	Continuous Evaluation Marks	End Sem Marks	Over all Pass %	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1. 2. 3. 4. 5. 6. 7. 8 9 10.	Omics For BME Molecular Biology Lab Genomics & Proteomics Progressive Res in Life Sci Microbiology Microbiology Lab Research Paper Presentation Microbiology Microbiology Lab Project Work	3 2 3 4 3 1 2 3 2 2	Pass % is above 90	Pass % is above 90	Pass % is above 90	5		
					Average	5		

(NOTE: If the pass % is above 90, it is 10 points, else if the average of pass% will be taken with reference to last year's result)

D-New /Additional Course, Innovative Pedagogy, Value Added Topics & Remedial Classes: (5)

Sl. No.	Nature of Additional Teaching related Work	Class	No. of Lectures taken	Necessity/ Reason	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	New/Additional Course	Transcriptomics	10	Application	1.25		
2	Innovative Pedagogy	Flip Classes & Group Discussion	15	For more inquisitiveness	1.25		
3	Value Added Topics	Microbial Diversity & Application	15	Employability	1.25		
4	Remedial Classes	Genomics & Proteomics Microbiology	15	For Weaker students and More Clarity	1.25		
				Average	5		

(NOTE: Each point 1.25 marks)

E- Student's Feedback (5)

Sl. No.	Course Name & Code	Credits	Students Feedback	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
				Average	5 (ERP)		

(NOTE: Feedback Scale: 0-7. Feedback students having more than 75% attendance will be considered)

CATEGORY-II: RESEARCH, TRAINING & CONSULTANCY ACTIVITIES (25)

F- Publications (15/18)

Sl. No.	Details of Paper/Book/Book Chapter/Review	National/International	INDEXED	Impact Factor	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Annexure-1 (List of Publication)	International - 53 National-5	INDEXED	155	15		
				Average			

(NOTE: For E&T & Science 15 Marks and other Departments 18 Marks)

G- Projects (5/7)

Sl. No.	Title of the Project	Details of PI & Co-PI	Funding Organization	Amount	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Telomeres and telomerase activity in adaptation towards hypobaric hypoxia.	Principal Investigator	DST-SERB-YSS	29,29000/-	Govt		
2.	Deciphering the Methylation status and expression of telomere & telomerase complex genes under hypobaric hypoxia.	Principal Investigator	DST-SERB-CRG	43,57,769/-			
3.	Elucidating the relationship between Telomere length and Biomarkers of Allery & Asthma	Principal Investigator	SRMUH	90,000/-			
4.	Bio Vitamins from Sugarcane	Co-Principal Investigator	SRMUH	200,000/-			
				Average	5		

(NOTE: For E&T & Science 5 Marks and other Departments 7 Marks)

H- Patent (applicable only for E&T & Science) (5)

Sl. No.	Title of Patent	Filing/Published details	Place	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
			Average				

(NOTE: Applied 2 Marks and published patent 5 marks)

CATEGORY-III: ACADEMIC-ADMINISTRATIVE ACTIVITIES (20)

I-Academic Administration Responsibility (20)

Sl. No.	Academic Administration related Activity	Nature of Responsibility	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
	1. Head of Department Biotechnology & Microbiology Deptt	Head of Department			

	2. Head of Department Biomedical Engineering Deptt till July 2023	Head of Deptt			
	3. Established BME department and Labs in 2016	Lab Established			
	4. Established Biotechnology & Microbiology department and Labs	Lab Established			
	5. Convener BOS for Biotechnology & Microbiology	Convener BOS			
	6. Convener DRCC Biotechnology & Microbiology	Convener DRCC			
	7. Mentoring M.Sc. students for major and minor projects	Mentor Project			
	8. Lab In charge Molecular Biology	Lab In charge			
	9. Class In charge for M.Sc. Biotechnology	Class In charge			
	10. Question Paper Moderation Committee Member BT MB	Moderation Member			
	11. Organizing Committee NSD 24, World Environment Day, WID	Organizing Member			
	12. Guiding four Ph.D. students	Supervisor Ph.D.			
	13. Organizing team member for "Biofusion" club of BT/MB	Organizer Biofusion			
	14. Organizing committee member of the International Confer on AMR 2024	Organizing Member			
	15. Overall Placement coordinator for Biotechnology & Microbiology	Placement Coordinator			
	16. Overall ERP coordinator for Biotechnology & Microbiology	ERP Coordinator BT Mb			
	17. Guest Lecture Coordinator for Biotechnology & Microbiology	Guest Lecture Coordinator			
	18. Overall Deptt Time Table Coordinator	Time Table Coordinator			
	19. Overall Deptt IQAC Coordinator	IQAC Coordinator			
	20. IAEC member for Animal Handling & Research	IAEC Member			
	21. Organizing coordinator of the Workshop on Science behind Bread Making: Fermentation Technology 2025	Coordinator Workshop			
	22. Member Academic Council SRMUH	Council Member			
	23. University Disciplinary Committee Member	Disciplinary Member			
	24. University Anti-ragging Committee member	Anti Ragging Committee member			
	25. Examination Frisking/Flying Duty	Frisking/Flying Duty			
	26. University fresher's Aagaz committee member	Aagaz Committee Member			
	27. NAAC/NBA Accreditation Committee Member	For NAAC/NBA Accreditation			
	28. Admission Duty & Counseling duty at various Places/Cities	Counseling Duty			
	29. Annual Fest PRISMA Committee member	Organizing Member			
	30. University Anti ragging Committee member	Anti Ragging Committee member			
	31. University UFM VC nominee member	UFM Meeting Member			
	32. University Convocation Committee Member	Convocation Member			
	33. NPTEL, Swayam, Coordinator & SPOC Person	NPTEL Coordinator			
	34. Chairing &Co-Chairing the sessions of International Conference: DET-EAS-2025 by EVS deptt	Chair & Cochair			
	35. Judge for the Live Project evaluation of Management & Commerce May 2025	Judging Project			
		Average	20		

(NOTE: Each activity 2 marks)

CATEGORY-IV: PROFESSIONAL DEVELOPMENT ACTIVITY (3)

J. Workshop/FDPs/Conference Attended as participant or Resource person (3)

Sl. No.	Workshop/FDPs/Conference Attended	Period (From…to …)	National/International	Published in Proceedings (Y/N)	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
	FDP on NEP 2020: Orientation & Sensitization	1st-10th Mar 2025	National	N			
	Climate Change & its Impact on Agriculture	5th-11th Aug 2024	National	N			
	Global BioIndia (GBI) forum on 'Biotech Innovation Ecosystem' and 'Bio-manufacturing'	12th-14th Sept 2024	National	N			
	One day workshop on The Science behind Bread Making: Fermentation Technology & Bread Making Session	26th May 2025	National	N			
	Science and Technology for Viksit Bharat	15th May 2025	National	N			
	Immune Responses in Hypoxia Driven Pathophysiological Conditions	24th April 2025	International	N			
	World Tuberculosis Day	24th Mar 2025	National	N			
	Stem Cell and Regenerative Medicine	17th Feb 2025	National	N			
	Perpetuated Bronchial Inflammation, Tissue Remodeling, and Angiogenesis in COPD Patients	3rd Dec 2024	International	N			
	7th International Leh Symposium	5th-8th Aug 2024	International	YES			
		Average	National3	Y			

Note: For each day max 1 point for participation and max 2 points for resource person

CATEGORY-V: PROFESSIONAL MEMBERSHIP (2)

Sl. No.	OrganizationN	Joining date
1	Member & Treasurer Hypobaric Hypoxia Society	
2	PVRI Member UK	

NOT2E: Any other information which is not covered in the form and you feel that is very import for your appraisal. (Attach separate sheet).

Enclosures:

1. 7.
2. 8.
3. 9.
4. 10.
5. 11.
6. 12.

Declaration: I hereby declare that the information given above is true to the best of my knowledge and belief.

Date: (Name & Signature of Faculty)

[FOR OFFICIAL USE ONLY]

HR Section:

Type of Leave	CL	ML	LoP	PER	OD (OW)	RH	CO	Non-Punch	VL	AL	Special Leave-Covid-19
Availability	12	30	10	36	30	3	20	10			14
Availed											

Date: (Signature of HR)

SUMMARY SHEET

Sl. No.	Criteria	SCORES	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
I	Teaching learning and evaluation activities	50			
II	Research, training & consultancy activities	25			
III	Academic administration activities	20			
IV	Professional development activity	3			
V	Professional membership	2			
	Average	100			

Recommendation of Appraisal Committee

Date:

(Signature of Chairman of the Committee)

(Vice Chancellor)

Name of the Institution SRM University Delhi-NCR Sonepat

S.No	Employee ID	Employee Name	Date of Joining	Department (Faculty)	Designation		Experience	
					Designation at the time of Joining	Current Designation	Before SRM	At SRM
1	41180002	Dr Arpana Vibhuti	02.09.14	Biotechnology,	Assistant Profess	Professor	9 Years 5 Month	11 Years 1 Month

Educational Qualification					Ph.D		
UG (Course with year of completion)	Full Time/ Part Time/ Distance	PG (Course with year of completion)	Full Time/ Part Time/ Distance	Others	Awarded (Specify the Year)	No	
						Date of Registration	Tentative year of completion
B.Sc. Biology 1999	Full Time	M.Sc. Biotechnology 2002	Full Time	Post Doc USA	**Awarded 2008**		

Consolidated Faculty Performance Review Parameters for the year 2024 to 2025

Salary		Research Articles published as 1st / Corresponding Author	Research Articles published as Co-Author	Scopus / Impact Factor	No. of Journals retracted
At the time of Joining	Current Salary	2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025
53000/-	1,17,047/-	4	8	15	Nil
		https://doi.org/10.1007/978-981-96-6246-3_8	https://doi.org/10.2174/0118715230270724231214112636		
		https://doi.org/10.1080/09553002.2024.2310016	https://doi.org/10.1002/pul2.70023		
		https://doi: 10.1080/08830185.2024.2402023	https://doi.org/10.3390/microbiolres15030109		
		https://doi.org/10.1201/9781003348672-1	https://doi.org/10.1007/s44351-025-00028-4		
			https://doi.org/10.1055/s-0045-1802321		
			https://doi: 10.20944/preprints202404.1866.v1		
			https://doi.org/10.1201/9781003503019		

NPTEL Courses completed (For Asst./Assoc. Prof.)	Faculty Industry Immersion Program (For Asst./Assoc. Prof.)	FDP / Conferences / Seminars Attended	Invited Lectures/ Talks delivered	FDP / Conferences / Seminar Conducted	Events Conducted (Deptt./ University level)	Book Chapter Published (mention National/ International)	Book Published (mention National/ International)
2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025
		7	1	5	2	3	

Patents Filed/Granted (For Engg. & Science)	Guideship / Supervisorship			Consultancy Projects	Funded Projects	Academic Achievements	Additional Responsibilities (At Deptt./ University level)
2024 - 2025	Yes			2024 - 2025	2024 - 2025	2024 - 2025	2024 - 2025
	Year of Supervisorship granted	No of Scholars Awarded	No of Scholars (ongoing)				
	2015	3	4		4	14	35

Other Activities
2024 - 2025
9

Name of the Institution

Consolidated Faculty Performance Review Parameters for the year 2024 to 2025

S.No	Employee ID	Employee Name	Date of Joining	Present Designation	Designation		Experience		Educational Qualifications				Ph.D		Salary		Research Articles published as 1st / Corresponding Author	Research Articles published as Co-Author	Seminar / Paper Presented	No. of Journals reviewed	MOOC Course completed (For Asst./Assoc. Prof.)	Faculty Industry Interaction Program (For Asst./Assoc. Prof.)	FDP / Conference / Seminar Attended	Invited Lectures / Talks delivered	FDP / Conference / Seminar Conducted	Events Conducted (Dept./ University level)	Book Chapter Published (mention National/ International)	Book Published (mention National/ International)	Patents Filed/Granted (For Engg. & Science)	Guideship / Supervisorship			Consultancy Projects	Funded Projects	Academic Achievement	Additional Response (Other than Above)	Other Activities
													No.																		Year of Supervisorship granted	Ph.D Scholars Awarded	No of Scholars (ongoing)					
1	61 (Initial)	Dr Arpana Vishnoi	02/07/14	Chemical Engineering (Biotechnology & Microbiology)	Assistant Professor	Professor	7 Years 1 Months	11 Years 4 Months	PG Biology (HSE)	Full Time	M.Sc. Biotechnology 2002	Full Time	Phd Pac USA	Awarded 2008			7/2005/	11/2021/	9	https://doi.org/10.1007/978-981-99-8245-3_8		11	1			3	1	3	9	1			2025	0	0		1	14	15	0
																			https://doi.org/10.1002/jpln.202000																						
																			https://doi.org/10.1039/d3ra01533g																						
																			https://doi.org/10.1007/s44211-025-00679-4																						
																			https://doi.org/10.1002/cben.202400021																						
																			https://doi.org/10.2004/ajp-rejuvie/2074/04_1999_v_1																						
																			https://doi.org/10.1201/9781003503569-3019																						
																			https://doi.org/10.1002/9781394233618.ch2																						
																			https://doi.org/10.1201/9781003503477-1																						

Research Articles / Book Chapters Published 2024-25

1. Rohit Kumar, Atul Pandey, **Arpana Vibhuti**, Manzoor Ali, Chung-Ming Chang, Ramendra Pati Pandey. Unlocking Mysteries: Exploring the Dynamic Interplay amor Sleep, the Immune System, and Curcumin in Contemporary Research. Sleep Science, 2025, DOI: 10.1055/s-0045-1802321
2. Amit Sharma, Shyam Tripathi, Kusum Rani, **Arpana Vibhuti**, Ramendra Pati Pandey, V Samuel Raj. The antimicrobial spectrum to manage the co-infections of aeruginosa and S. aureus. Discover Bacteria 2025, 2(1), 18; https://doi.org/10.1007/s44351-025-00028-4
3. Rishav Kumar, Ajay Kumar Sharma, Kirti, Aman Kalonia, Priyanka Shaw, M H Yashvarddhan, **Arpana Vibhuti**, Sandeep Kumar Shukla. Understanding innate ar adaptive responses during radiation combined burn injuries. Int Rev Immunol. 2024 Sep 44(1):31-43. doi: 10.1080/08830185.2024.2402023.
4. Ajay Kumar Sharma, Aman Kalonia, Rishav Kumar, Kirti, Priyanka Shaw, M H Yashvarddhan, **Arpana Vibhuti**, Sandeep Kumar Shukla. Alleviation of radiation combine skin injury in rat model by topical application of ascorbate formulation. Int J Radiat Biol. 2024, 100(5), 689-708. doi: 10.1080/09553002.2024.2310016.
5. Gajala Deethamvali Ghouse Peer, Anjali Priyadarshini, Archana Gupta, **Arpana Vibhuti**, Elcio Leal, Antonio Charlys da Costa, Carlos Prudencio, Kirtanjot Kaur, Sahee Ahmad, V. Samuel Raj, and Ramendra Pati Pandey. A Systematic Assessment of Leishmania donovani Infection in Domestic and Wild Animal Reservoir Hosts of Zoonot Visceral Leishmaniasis in India. Microbiology Research. 2024, 15(3), 1645–1654. https://doi.org/10.3390/microbiolres15030109
6. Rahul Kumar, Aastha Mishra, **Arpana Vibhuti**, Tashi Thinlas, Qadar Pasha. The 7th International Leh Symposium: Lungs at High Altitude: Molecular Mechanisms ar Therapeutics of Hypoxic Lung. Pulmonary Circulation, 2024; 14(4):e70023 doi: 10.1002/pul2.70023
7. Deethamvali Ghouse Peer , Anjali Priyadarshini , Archana Gupta , **Arpana Vibhuti** , V.Samuel Raj , Chung-Ming Chang, Ramendra Pandey. Exploration of Antileishmani Compounds Derived from Natural Sources. Antiinflamm Antiallergy Agents Med Chem. 2024. 23(1), 1-13 doi: 10.2174/0118715230270724231214112636.
8. K Sheetal, K Diksha, K Swati, K Tamana, K Baby, **Arpana Vibhuti**, Archana Gupta, Anjali Priyadarshini, Ramendra Pati Pandey. A New Therapeutic Approach Utilize Probiotics, Prebiotics, Synbiotics, Postbiotics, and Gut Microbiota. Preprints 2024. doi: 10.20944/preprints202404.1866.v1

ABSTRACT/PROCEEDINGS (2024-2025)

1. Rishav Kumar, Kirti, Priyanka Shaw, Aman Kalonia, Sania Bajaj, Ajay Kumar Sharma, Sandeep Kumar Shukla, **Arpana Vibhuti**. Radiation and thermal injuries: a preliminary study of their combined effects on mice to develop a radiation combined burn injury model. Journal of Radiation and Cancer Research Oct 2024, 15(4) 182.
2. Arpana Vibhuti, Rohit Kumar, Arun Paulose, Aastha Mishra, Qadar Pasha. Telomere dynamics in Hypobaric Hypoxia Pathophysiology. Pulmonary Circulation, 2024; 14(4):e70023 doi: 10.1002/pul2.70023
3. Rohit Kumar, Manjoor Ali, Swati Kumari, Arun Paulose, Aastha Mishra, Arpana Vibhuti. Status of Telomere and its related genes under Hypobaric Hypoxia at High altitude. Pulmonary Circulation, 2024; 14(4):e70023 doi: 10.1002/pul2.70023

BOOK CHAPTER/S (2024-2025)

1. G D Ghouse Peer, Anu Saini, **Arpana Vibhuti** & Amrendra Ajay. Personalized Therapeutics. Nanotherapeutics for Inflammatory Arthritis, Design, Diagnosis and treatmen 2024; CRC press. ISBN-10 1032391634
2. Rishav Kumar, Sandeep Kumar Shukla, Archana Gupta, **Arpana Vibhuti.** Unveiling the Gut Microbiome's Role in Obesity and Insulin Resistance; Gut Health & Metabo Syndrome 2025; Springer Nature, 145-167. ISBN-978-981-96-6245-6
3. Gajala Deethamvali Ghouse Peer, **Arpana Vibhuti**, Gajala Ishrathtaj, Ramendra Pati Pandey. Artificial Intelligence in Disease Surveillance and Monitoring Resistan Microbes. Artificial Intelligence in Managing Antimicrobial Resistance. 2025; CRC press. ISBN-9781003503019

allow for the measurement of the relative contribution of tissues aiding the cfDNA pool under HA settings. Results: Deep sequencing and fragmentation analysis of circulating cfDNA fragments in the two study groups, HAPE patients and healthy controls, suggests the contribution of lymphoid and myeloid cells. In addition to this, we have also found contributions from other cells and tissues such as lung, liver, payers' patches, and spleen to the cfDNA pool under HA pathophysiology and physiology. Conclusion: Hence, cfDNA promises to be a minimally invasive biomarker that can map tissue injuries involved in the disease development and progression.

A023 TIBETAN SPECIFIC GENETIC VARIANT PHD2$^{D4E;C127S}$ CONFERS HYPOXIA-DEPENDENT PROTECTION AGAINST VIRAL INFECTIONS

Riya Ghosh[1,2], Garima Joshi[2], Nishith M. Shrimali[2], Kanchan Bhardwaj[1,2], Tsewang Chorol[3], Tashi Thinles[3], Parvaiz Koul[4], Josef T. Prchal[5], Prasenjit Guchhait[2]

[1]Manav Rachna International Institute of Research and Studies, Faridabad, India

[2]Regional Centre for Biotechnology, National Capital Region Biotech Science Cluster, Faridabad, India

[3]Sonam Nurboo Memorial Hospital, Leh-Ladakh, Jammu and Kashmir, India

[4]Department of Internal and Pulmonary Medicine,

Sher-i-Kashmir Institute of Medical Sciences, Srinagar, India

[5]Department of Medicine, University of Utah School of Medicine and Huntsman Cancer Center and George E. Wahlin Veteran's Administration Medical Center, Salt Lake City, UT, USA

Background: At altitudes above 1500 meters, native Tibetan highlanders thrive without hypoxia-related issues, attributed to a genetic variant PHD2$^{D4E;C127S}$ in the *EGLN1* gene, present in approximately 80% of Tibetans, encodes the protein prolyl-hydroxylase-2 (PHD2). PHD2 regulates hypoxia-inducible factor-1α (HIF-1α), crucial for cellular responses to low oxygen. The PHD2$^{D4E;C127S}$ variant maintains HIF-1α suppression even under hypoxic conditions by efficiently binding oxygen, preventing typical hypoxia-induced effects like erythropoiesis and inflammation. We investigated the role of the PHD2$^{D4E;C127S}$ variant on viral infections, focusing on its modulation of HIF1α levels and interferon (IFN) production under hypoxic conditions. Materials and Methods: *In vitro* studies using monocytes from individuals homozygous for the PHD2$^{D4E;C127S}$ polymorphism and engineered cell lines (*EGLN1*$^{c.[12C>G;380G>C]}$) infected with Dengue virus-2 (DENV2) and SARS-CoV-2 under both hypoxic (3% O_2) and normoxic (21% O_2) conditions. Results: Results demonstrated that PHD2$^{D4E;C127S}$ monocytes exhibited reduced HIF1α levels and increased IRF-3/7/9 and IFNα/β expression under hypoxia, conferring protection against DENV2 infection. Conversely, under normoxia, these cells showed elevated HIF1α levels, decreased IRFs and IFNα/β expression, and increased susceptibility to DENV2 infection. Similar patterns were observed with SARS-CoV-2 infection. Furthermore, treatment with HIF1α inhibitor CAY10585 enhanced IFNs and reduced viral infection in both in vitro and in vivo models. The gain-of-function PHD2$^{D4E;C127S}$ variant was validated by demonstrating elevated IFN-γ expression by CD4/CD8 T cells against SARS-CoV-2 RBD peptide under hypoxia in vitro. Conclusion: These findings elucidate a unique interplay between the PHD2$^{D4E;C127S}$ variant and IFNs under different oxygen conditions, influencing viral infection susceptibility. The HIF1α inhibitor CAY10585 exhibits potential as a therapeutic agent against both dengue and SARS-CoV-2 by enhancing interferon production.

A024 STATUS OF TELOMERE AND ITS RELATED GENES UNDER HYPOBARIC HYPOXIA OF HIGH-ALTITUDE

Rohit Kumar[1,2], Manzoor Ali[2,3], Swati Kumari[2,3], Arun Paulose[1],

Aastha Mishra[2,3], Arpana Vibhuti[1]

[1]Department of Biotechnology, SRM University, Delhi-NCR, Sonepat, Haryana, India

[2]Genomics and Genome Biology Unit, CSIR-Institute of Genomics and Integrative Biology, Delhi, India

[3]Academy of Scientific and Innovative Research (AcSIR), Ghaziabad, India

Background: High- altitude (HA) is the region on the earth's surface above 2500 meters above sea level. The presence of decreased inspired partial pressure of oxygen (PaO_2), and leads to decreased blood arterial oxygen saturation (SaO_2) results in HA related disorders such as acute mountain sickness (AMS), high-altitude pulmonary edema (HAPE), and high-altitude cerebral edema (HACE). In addition, hypobaric-hypoxia at HA may damage DNA due to the production of reactive molecular species and UV radiation. As a part of DNA, telomeres are the protective caps of the chromosomes with a dynamic, complex nature that maintains the integrity and length of chromosomal DNA. Several studies have shown the contribution of telomeres in the severity of HA disorders such as HAPE. Materials and Methods: Therefore, the present investigation aims to find the status of telomere length in the study groups consisting of the native people living at HA (highlanders or HLs), the sojourners, and the travelers from sea level to HA who are not affected (control) and affected by HAPE (HAPE patient). The telomere length has been compared in highlanders ($n = 35$), control ($n = 64$), and HAPE ($n = 159$). Results: The observation depicted significantly lower telomere length in HAPE patients compared to control and highlanders ($p < 0.0001$). However, the relative telomere length in the HAPE severity was mild ($n = 41$), moderate ($n = 52$), and severe ($n = 51$). The observation was not significant. The telomere length also depends on age, body mass index (BMI), and gender. After adjusting the age, BMI, and gender, the correlation study was done with the SpO_2 level, respiration rate, pulse rate, and blood pressure to detect the presence and strength of a relationship between the study groups. Conclusion: Thus, the

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at altitude and in human disease more generally, being associated with outcomes in critically ill patients and common complications of pregnancy.

A004 DIAGNOSTIC IMAGING AT HIGH ALTITUDE-OVERCOMING STRATOSPHERIC CHALLENGES WITH PLAUSIBLE SOLUTIONS

Anjali Agrawal

Senior Consultant and Delhi Head, Teleradiology Solutions, Delhi, India

Background: Radiology, by virtue of its sophisticated machinery, cumbersome installations in shielded rooms, and regular technical supervision, remains confined to urban areas. Materials: Technological advancements, particularly in point-of-care imaging, have made its penetration into rural and relatively hostile terrains possible. Unfortunately, technologists, particularly radiologists, who are required to perform and interpret these exams remain in short supply and are concentrated in urban landscapes for lifestyle and professional reasons. Results: Teleradiology has been a game-changer in healthcare by partially improving access and availability to expert radiological opinion beyond geographical boundaries and narrowing the wide demand-supply gap. Now, with artificially intelligent tools on-site or on the cloud, one can expect a timely clinical decision support on-site, with improved detection, quantification as well as prediction. Conclusion: The AI tools would perhaps objectivize the decision-making to transfer an ailing Sherpa to a lower altitude while easing the moral dilemma of costing a man his livelihood.

A005 TELOMERE DYNAMICS IN HYPOBARIC HYPOXIA PATHOPHYSIOLOGY

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Background: Telomeres are a novel and promising target to explicate the phenomena of adaptation/maladaptation at high altitude (HA). The endurance of an individual may be prognosed in advance by studying the telomeres of the people before they visit high altitudes. Hypobaric hypoxia at HA generates reactive oxygen species (ROS) that can damage telomeres and disturb normal physiological processes. The telomere complex comprises multiple proteins, of which tankyrase (TNKS) is actively involved in DNA damage repairs. Materials: We investigated this system in three groups: the healthy sojourners named HAPE-resistant (HAPR-r), healthy natives (HLs) and the HA Pulmonary Edema patients (HAPE-p). Results: The telomere length was shorter in HAPE-p compared to HAPE-r ($p = 0.03$) and HLs (P = 4.25E-4). The telomerase activity was significantly higher in HAPE-p compared to both HAPE-r ($p = 0.01$) and HLs ($p = 0.001$). HAPE-p had the lowest TNKS levels (0.186 ± 0.031 ng/μl) and the highest telomerase activity (0.0268 amoles/μl). The expression was upregulated by 9.27 folds in HAPE-p (P = 1.01E-06) and downregulated in HLs by 3.3 folds ($p = 0.02$). The findings indicated the association of telomere, telomerase and TNKS with hypoxia-induced sicknesses/acclimatization. To understand the roles of telomeres, understanding their regulation, such as through epigenetics, is critical. The epigenetic modifications promote red blood cell synthesis and more effective oxygen utilization, essential for survival in HA settings. Conclusion: Thus, correlations between the telomere system and methylation could provide greater insight into HA sickness. Moreover, these correlations may help us better understand the intricate biological reactions to hypoxia and create preventative and therapeutic measures.

A006 IMMUNE CASCADE IN INFLAMMATORY PULMONARY VASCULAR DISEASE INCLUDING *SCHISTOSOMA* AND HYPOXIC PULMONARY HYPERTENSION

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Background: Inflammation is a major driver of many forms of clinical and experimental pulmonary hypertension (PH). Materials and Methods: Our collaborative group has studied pulmonary vascular inflammation in the context of *Schistosoma*- and hypoxia-induced disease in animal models and clinical specimens, to discover pathologic phenotypes of the host. Results: In *Schistosoma*, embolization of parasite eggs to the lungs causes a cascade of Type 2 inflammation leading to TGF-beta activation, which may benefit the host immune system by quelling excessive inflammation. In hypoxia, there is a sterile recruitment of monocytes to the lung parenchyma, which results in thrombospondin-1 expression and TGF-beta activation. We thus find a convergence of varied proximate immune signals on TGF-beta signaling, a pathway shared with forms of familial PH driven by mutations in the TGF-beta family, and successfully targeted by the recently developed sotatercept. One important area of uncertainty is how the host inflammation phenotype changes over time, in the setting of either persistent or ceased immune stimulus, and if the immune system continues to drive ongoing vascular disease or may contribute to disease resolution. In *Schistosoma*-induced PH in mice, there is early evidence that repeated exposure causes persistent late disease, by which time the inflammation has largely subsided. Conclusion: Thus, targeting inflammation may be particularly

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(3) Dr. Arpana Vibhuti

THIEME OPEN ACCESS

Review Article

Unlocking Mysteries: Exploring the Dynamic Interplay among Sleep, the Immune System, and Curcumin in Contemporary Research

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Sleep Sci

Abstract

The scientific disciplines encompassing sleep, the immune system, and curcumin have garnered considerable interest due to their interconnectedness and potential implications for human health. Sleep is a crucial factor in maintaining optimal immune function, as it facilitates the release of cytokines, which are signaling molecules responsible for regulating immune responses. On the contrary, sleep deprivation has the potential of inhibiting immune function, thereby heightening the susceptibility to infection and disease. Curcumin, a naturally occurring polyphenol derived from the turmeric plant, has been observed to possess immunomodulatory characteristics through its ability to modulate the equilibrium between pro- and anti-inflammatory cytokines. It is worth noting that there is evidence suggesting that curcumin supplementation could enhance the quality of sleep. Scientific studies have indicated that curcumin supplementation has been associated with an increase in the duration of sleep and a decrease in wakefulness among individuals who are in good health. Additionally, curcumin supplementation has been found to enhance sleep quality and alleviate symptoms of depression in individuals diagnosed with major depressive disorder. The intricate interplay among sleep, the immune system, and curcumin is multifaceted, and scientific investigations indicate that curcumin may serve as a beneficial dietary adjunct to enhance immune function and optimize sleep quality.

Keywords

- sleep loss
- cytokines
- curcumin
- REM sleep
- NREM sleep
- neuro-inflammation

[#] *The authors have contributed equally.*

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Pulmonary Circulation

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MEETING ABSTRACT OPEN ACCESS

The 7th International Leh Symposium: Lungs at High Altitude: Molecular Mechanisms and Therapeutics of Hypoxic Lung

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The 7th International Leh Symposium on "Molecular Mechanisms and Therapeutics of Hypoxic Lung" from August 4 to 9, 2024, organized at the Mahabodhi International Meditation Centre in Saboo, Leh, Ladakh, India (Pictures 1), ensured the participation of a galaxy of national and international researchers, who explored the complex clinico-physiological processes associated with high-altitude adaptive and maladaptive mechanisms. The symposium provided a platform for sharing ideas and advancing knowledge to improve the quality of life and develop effective treatments for high-altitude complications. Whereas, high-altitude exposure is unavoidable for several reasons, such as over-whelming tourism, endurance training, the presence of native high-altitude populations, and military deployments.

The inaugural session began with Nobel Laureate Professor Ratcliffe, who emphasized the role of HIF-mediated pathways in adapting to high altitude and managing related vascular complications. He highlighted the critical role of genetic regulation in maintaining normal physiology under hypoxic conditions. The discussion on human metabolic adaptation to high-altitude hypoxia concluded that metabolic responses to tissue hypoxia have important implications for health, both at altitude and in broader contexts like critically ill patients and pregnancy complications. Hypoxia triggers increased erythropoiesis through hypoxia-inducible factors (HIFs), which regulate erythropoietin transcription. Evolutionary adaptations in high-altitude populations—Tibetans, Ethiopians, and Andeans—reveal that Tibetans and Ethiopians maintain normal hemoglobin levels, while many Aymara and Quechua from the Andean highlands exhibit polycythemia. It was noted that NF-κB interacts with HIFs to regulate erythropoiesis. The Aymara population expresses a distinct NFKB1 variant, which modulates inflammation by producing a truncated, nonfunctional NF-κB peptide. This variant is associated with higher hemoglobin levels, lower leukocytes, and suppressed inflammation, marking a key genetic adaptation to high altitude in the Aymara people.

Immune Cell-Mediated Inflammation and PH. "Immune Cell-Mediated Inflammation play a significant role in the pathogenesis of and pulmonary hypertension (PH), with evidence linking autoimmune and infectious diseases to the development of PH. Inflammation can induce experimental PH, and perivascular inflammation is observed in human pulmonary arterial hypertension (PAH) and animal models. In both, inflammatory cell infiltrates—including mast cells, dendritic cells, fibroblasts, macrophages, B cells, and CD4/CD8 T cells. Experimental models have shown that anti-inflammatory treatments, such as glucocorticoids and inhibitors of TGF-β, IL-6, IL-21, SDF-1, and macrophages, can reduce inflammation and PH symptoms. However, these results have not yet translated into clinical benefits for patients with PH, except in rare cases like lupus-associated disease. Studies using *Schistosoma* and hypoxia-induced PH models have provided valuable insights into immune cell involvement, but the causal relationship between inflammation and PH remains unclear. Whether inflammation is a trigger, amplifier, or merely an epiphenomenon of the disease is still under investigation. Systematic studies using hypoxia and *Schistosoma* or a combination of models could shed light on innate-adaptive immunity crosstalk contributing

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Discover Bacteria

Research

The antimicrobial spectrum to manage the co-infections of *Pseudomonas aeruginosa* and *Staphylococcus aureus*

Amit Sharma[1] · Shyam Tripathi[1] · Kusum Rani[1] · Arpana Vibhuti[1] · Ramendra Pati Pandey[1] · V. Samuel Raj[1]

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Abstract

Background Coinfections of *Pseudomonas aeruginosa* and *Staphylococcus aureus* usually fail to respond to antibiotic treatment, and combination therapy may prove to be a substantial approach to prevent the spread of antimicrobial resistance.

Objectives To evaluate the antimicrobial and antibiofilm effects of drugs against the sensitive as well as resistant strain co-cultures of *P. aeruginosa* and *S. aureus*.

Methods A pair of biofilm-forming, sensitive, and resistant strains was identified from 52 clinical isolates of *P. aeruginosa* and 43 of *S. aureus* using phenotypic, genotypic, antimicrobial susceptibility tests, and colorimetric microtiter plate assays. The antimicrobial susceptibility patterns of the planktonic and biofilm cultures and co-cultures (1:1) from these resistant (PA-14 and PS-107) and sensitive (PA-27 and PS-100) strains were determined for the specific set of drugs. Based on the Minimum Inhibitory Concentration (MIC), and Minimum Biofilm Inhibitory Concentration (MBIC) data, the different drug combinations were shortlisted and tested against the co-cultures.

Results In the drug combination studies, 33.3% (4/12) of drug combinations showed synergy against resistant and 41.7% (5/12) against sensitive strain planktonic co-cultures among the shortlisted drug combinations. Furthermore, 8.3% (2/24) of drug combinations were found to be effective against the biofilm co-cultures of resistant strains and 80% (4/5) of drug combinations showed synergy against sensitive strains.

Conclusions Drug combination studies revealed a few effective drug combinations that demonstrated synergy against the planktonic and biofilm co-cultures. Despite their synergistic effects against the bacterial co-cultures, the drugs involved in these combinations (colistin, linezolid, trimethoprim, nitrofurantoin, and vancomycin) displayed inhibitory effects against the pure cultures of *P. aeruginosa* and *S. aureus* within the susceptible ranges noted in the initial studies. Owing to this, however, mitigates the synergistic effect of these drug combinations. Conversely, it shows a notable decrease in the MICs (≥ 50%) when compared to the MICs of these drugs against the pure bacterial cultures, suggesting the therapeutic benefits of adjusted doses of the combined drugs over monotherapy in treating these coinfections.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s44351-025-00028-4.

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Understanding innate and adaptive responses during radiation combined burn injuries

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ABSTRACT

The occurrence of incidents involving radiation-combined burn injuries (RCBI) poses a significant risk to public health. Understanding the immunological and physiological responses associated with such injuries is crucial for developing care triage to counter the mortality that occurs due to the synergistic effects of radiation and burn injuries. The core focus of this narrative review lies in unraveling the immune response against RCBI. Langerhans cells, mast cells, keratinocytes, and fibroblasts, which induce innate immunity, have been explored for their response to radiation, burns, and combined injuries. In the case of adaptive immune response, exploring behavioral changes in T regulatory (Treg) cells, T helper cells (Th1, Th2, and Th17), and immunoglobulin results in delayed healing compared to burn and radiation injury. The review also includes the function of complement system components such as neutrophils, acute phase proteins (CRP, C3, and C5), and cytokines for their role in RCBI. Combined insults resulting in a reduction in the cell population of immune cells display variation in response based on radiation doses, burn injury types, and their intrinsic radiosensitivity. The lack of approved countermeasures against RCBI poses a significant challenge. Drug repurposing might help to balance immune cell alteration, resulting in fast recovery and decreasing mortality, which gives it clinical significance for its implication on the site of such incidence. However, the exact immune response in RCBI remains insufficiently explored in pre-clinical and clinical stages, which might be due to the non-availability of *in vitro* models, standard animal models, or human subjects, warranting further research.

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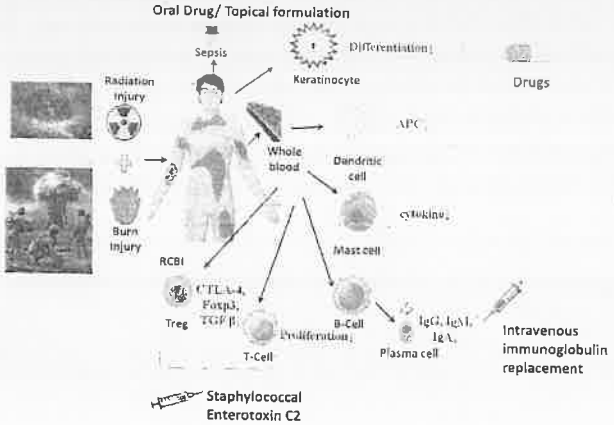
KEYWORDS
Adaptive immunity; hematology; innate immunity; radiation combined burn injuries; radio sensitivity

GRAPHICAL ABSTRACT



PLAIN LANGUAGE SUMMARY

In the realm of public health, RCBI presents significant risks and obstacles. This hazard is quite serious, and it might get worse in the future as evidenced by incidents like nuclear meltdowns and medical mistakes. Diagnosis and treatment become more challenging when serious injuries, particularly burns, are combined with radiation exposure. Features like early shock,

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microbiology research

MDPI

Article

A Systematic Assessment of *Leishmania donovani* Infection in Domestic and Wild Animal Reservoir Hosts of Zoonotic Visceral Leishmaniasis in India

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Abstract: Leishmaniasis is a neglected disease with a global spread that affects both domestic and wild animals in addition to people. Leishmania donovani is the suspected anthroponotic cause of visceral leishmaniasis (VL) in India, where it is an endemic disease. The reservoir hosts play a crucial role in the life cycle of the *Leishmania* parasite. The complicated connection between the pathogen, vector, and reservoir exhibits geographical and temporal diversity. Human-to-human and, to a lesser extent, human-to-animal transmission are the principal mechanisms for the maintenance of anthroponotic diseases. A number of animals were examined for the presence of Leishmania parasites and the findings were reviewed in order to examine the role of animal reservoirs in domestic transmission of cutaneous leishmaniasis in endemic regions of India. The analysis objective was to assess the research conducted on domestic animals' propensity to spread *L. donovani* in endemic areas, with a particular emphasis on how proximity and animal density may impact the prevalence of human leishmaniasis. Species of the *L. donovani* complex have distinct enzootic, zoonotic, and anthroponotic life cycles that depend on the environment. The majority of *Leishmania* spp. are zoonotic, spreading from non-human mammals to humans. Many nations have leishmaniasis as an endemic disease, and the Indian subcontinent (ISC) has an estimated two to three lakh people who are at risk. This systematic review evaluates the gaps in our understanding of disease transmission that contradict conventional wisdom about the reservoir(s) of visceral leishmaniasis and efforts to manage it on the Indian subcontinent. Fundamental concerns in VL epidemiology and ecology will be clarified by a better understanding of *L. donovani* infection in domestic animals and its transfer to sandflies. A deliberate, systematic search was conducted on PubMed, Science Direct, and Google Scholar using keywords such as "*Leishmania donovani*", "zoonotic visceral leishmaniasis", and "wild animal reservoir for *Leishmania donovani*". A total of 530 potentially relevant references were obtained from these databases, and 507 were not considered due to copy avoidance, irrelevant titles, research publications from nations other than India, or modified compositions. Among the remaining 23 investigations, 20 were rejected, and only 3 were included in the present study. Finally, three research papers with 867 goats, 161 cattle, 106 chickens, 26 sheep, three buffaloes, 406 dogs, and 309 rats were reported. Along with these data, studies across Asian and African countries that are considered VL-endemic areas have been

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ORIGINAL ARTICLE

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Alleviation of radiation combined skin injury in rat model by topical application of ascorbate formulation

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ABSTRACT

Purpose: This research endeavor was undertaken to elucidate the impact of an innovative ascorbate formulation on the regeneration process of full-thickness excision wounds in a rat model exposed to whole-body gamma irradiation, replicating conditions akin to combat or radiation emergency scenarios.

Materials and Methods: We established a comprehensive rat model by optimizing whole body γ-radiation doses (5–9 Gy) and full-thickness excision wound sizes (1–3 cm^2) to mimic radiation combined injury (RCI). The developed RCI model was used to explore the healing potential of ascorbate formulation. The study includes various treatment groups (i.e., sham control, radiation alone, wound alone, radiation + wound, and radiation + wound + formulation). The ascorbate formulation was applied twice daily, with a 12-hour gap between each application, starting 1 hour after the initiation of the wound. The healing potential of the formulation in the RCI context was evaluated over 14 days through hematological, molecular, and histological parameters.

Results: The combination of a 5 Gy radiation dose and a 1 cm^2 wound was identified as the optimal setting to develop the RCI model for subsequent studies. The formulation was used topically immediately following RCI, and then twice daily until complete healing. Treatment with the ascorbate formulation yielded noteworthy outcomes and led to a substantial reduction ($p < .05$) in the wound area, accelerated epithelialization periods, and an increased wound contraction rate. The formulation's localized healing response improved organ weights, normalized blood parameters, and enhanced hematopoietic and immune systems. A gene expression study revealed the treatment up-regulated TGF-β and FGF, and down-regulated PDGF-α, TNF-α, IL-1β, IL-6, MIP-1α, and MCP-1 ($p < .05$). Histopathological assessments supported the formulation's effectiveness in restoring cellular architecture and promoting tissue regeneration.

Conclusion: Topical application of the ascorbate formulation in RCI resulted in a significant improvement in delayed wound healing, leading to accelerated wound closure by mitigating the expression of inflammatory responses.

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KEYWORDS
Ascorbic acid; chemokines; radiation combined wound injury; cytokines; growth factors; hematopoiesis; immune system; radiation dose

1. Introduction

Exposure to ionizing radiation (IR) is prevalent, originating from various sources including medical procedures, nuclear facility emissions, accidents, and natural occurrences such as radon exposure, cosmic rays, and soil radionuclides. According to research by Julie Lopes et al. in 2022, the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) has estimated an average annual effective dose of approximately 3.0 millisievert (mSv) per person globally. This estimate comprises 2.4 mSv from natural sources and 0.6 mSv from artificial sources (UNSCEAR 2008). In the context of radiation emergencies, such as detonation-related incidents like Hiroshima, Nagasaki, and nuclear power plant accidents like Chernobyl, radiation combined injuries (RCI) are a significant concern.

RCI can be categorized into different types such as; thermal RCI (resulting from external/internal irradiation combined with thermal burns), mechanical RCI (external/internal irradiation combined with wounds), and chemical RCI (external/internal irradiation combined with chemical exposure) (Sharma et al. 2022). In addition to cutaneous injuries associated with RCI, there exists the potential for various other forms of injuries, including bone fractures, hemorrhaging, infections, traumatic brain injuries, etc. These types of injuries are anticipated to account for over 65% of injuries in disaster scenarios, as supported by previous studies (DiCarlo et al. 2010; Pellmar and Ledney 2005). RCI poses a particular challenge for affected individuals, as evidenced by observations in cancer patients undergoing radiotherapy treatment (Haubner et al. 2012). The

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Review

A New Therapeutic Approach Utilizes Probiotics, Prebiotics, Synbiotics, Postbiotics, and Gut Microbiota

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Abstract: Recent advancements in gut microbiome research have highlighted the complex interplay between gut microbiota and various physiological and pathological processes, showing that gut microbiota plays a vital role in human health and disease. Imbalances in the gut microbiota, known as dysbiosis, have been associated with a range of health conditions, including gastrointestinal disorders, metabolic diseases, etc. In response to these findings, probiotics, prebiotics, synbiotics, and postbiotics have emerged as a promising therapeutic strategy to modulate gut microbiota composition and functionality. This review paper explores the latest research on how gut microbiota impacts host physiology, immune responses, and overall well-being. Furthermore, the paper delves into the therapeutic potential of probiotics, postbiotics, prebiotics, and synbiotics in therapeutic applications and curing various diseases. The paper also addresses the challenges and opportunities in the field, highlighting the need for personalized approaches to probiotic therapy and the importance of considering factors such as strain specificity, dosing, and safety. Overall, this review aims to provide a comprehensive overview of the evolving landscape of gut microbiota and probiotics, prebiotics, synbiotics, and postbiotics as novel therapeutic agents. It underscores the potential of harnessing the gut microbiome to improve health, prevent diseases, and complement traditional medical interventions. As research in this field continues to expand, a deeper understanding of the gut microbiota and probiotics, prebiotics, synbiotics, and postbiotics promises new avenues for preventive and therapeutic healthcare strategies.

Keywords: gut microbiome; probiotics; prebiotics; synbiotics; and postbiotics

Introduction:

Antibiotics discoveries drastically changed human health related events which saved many lives of people and revolutionized the drug industries but nowadays according to the WHO, AMR (Antibiotic resistance) threatens the effective prevention and treatment of the ever increasing range of infections caused by bacteria, viruses and fungus. Nowadays people are concerned about the medicine's side effects and they are moving to natural products for disease therapy which are considered safe and less costly. This increased scientific curiosity about natural products, probiotics, various polyphenols etc as therapy for infections. Natural products have been the most successful source of potential drug leads in recent times. Maintaining the balance of the gut microbiome are the key points for promoting human health. Growing evidence has demonstrated that by manipulating gut microbiota through probiotics, evaluating human health and preventing or treating various illnesses. 'Gut microbiota' is the collection of bacteria, archaea and eukarya which may be possibly

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Unveiling the Gut Microbiome's Role in Obesity and Insulin Resistance

Chapter | First Online: 25 June 2025
pp 145–167 | Cite this chapter

Rishav Kumar, Sandeep Kumar Shukla, Archana Gupta & Arpana Vibhuti

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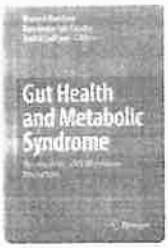

Gut Health and Metabolic Syndrome

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Abstract

An important role of the gut microbiota has been identified in the complex network of metabolic diseases, which includes obesity and insulin resistance. The composition of various microbes within the gut is dictated by the dietary habits adopted over the years and this then affects the dogma of energy metabolism and sustains obesity. This chapter focuses on current evidence and investigates the advanced mechanisms of the contribution of human intestinal microflora to the metabolic disorders mentioned above. Furthermore, this chapter speculates the effective treatments and future experiments, which could facilitate cancelling the insulin resistance and preventing the consequences related to obesity. Such a comprehensive view may reveal new diagnostic markers of obesity and diabetes mellitus and allow timely diagnosis and treatment.



Chapter

Artificial Intelligence in Disease Surveillance and Monitoring Resistance Microbes

By Gajala Deethamvali Ghouse Peer, Arpana Vibhute, Gajala Ishrathtaj, Ramendra Pati Pandey

Book Artificial Intelligence in Managing Antimicrobial Resistance

Edition	1st Edition
First Published	2025
Imprint	CRC Press
Pages	19
eBook ISBN	9781003503019

ABSTRACT

The rapid outbreak monitoring to prevent widespread health crises have become necessitates for the emergence of numerous infectious diseases especially Anti Microbial Resistance. Effective disease control relies on surveillance methods tailored to clinical approaches and epidemiology, considering evolving pathogens, at-risk populations, and ongoing mortality and morbidity data. Drug-resistant microorganisms have surged, compromising treatment efficacy and threatening global healthcare systems. Artificial Intelligence (AI) offers transformative potential in healthcare and microbiology by improving diagnostic accuracy, expediting drug discovery, and combating antimicrobial resistance. AI's rapid analysis of genetic sequences enhances pathogen identification, while its predictive capabilities streamline drug development, thus supporting global health efforts. This chapter explores AI's role in monitoring resistant microbes and disease surveillance.



Chapter

Personalized Therapeutics

By G D Ghouse Peer, Anu Saini, Arpana Vibhuti, Amrendra Ajay

Book Nanotherapeutics for Inflammatory Arthritis

Edition	1st Edition
First Published	2024
Imprint	CRC Press
Pages	18
eBook ISBN	9781003348672

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ABSTRACT

Understanding the molecular basis of drug action and revealing the genetic drivers of disease pathogenesis and treatment response have advanced significantly over the past 50 years. The profession of drug design has entered a new era in which each patient's unique DNA will assist in determining the most effective method of treatment, be it preventive, diagnostic, or therapeutic. This has had a significant effect on the design of drugs for pharmaceutical companies. Integration of modern biotechnology is required for the development of personalized medicine. One of the key elements of personalized medicine is personalized treatment. It is built on the varying responses to pharmaceuticals, including lack of response and adverse reactions, and the desire to use medications more effectively. There is a lot of interest in personalized medicine that uses the assessment of biomarkers in clinical samples, and it has a big impact on drug development. In this chapter, we are going to discuss the current scenario of personalized therapeutics.

Next Chapter >

Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry

Editor-in-Chief

ISSN (Print): 1871-5230
ISSN (Online): 1875-614X

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Exploration of Antileishmanial Compounds Derived from Natural Sources

Author(s): [redacted]

Volume 23, Issue 1, 2024

Published on: 24 January, 2024

Page: [1 - 13]

Pages: 13

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Abstract

Aims: Leishmaniasis is a deadly tropical disease that is neglected in many countries. World Health Organization, along with a few other countries, has been working together to protect against these parasites. Many novel drugs from the past few years have been discovered and researched against leishmaniasis, which have been effective but they are quite expensive for lower-class people. Some drugs showed no effect on the patients, and the longer use of these medicines has made resistance against these deadly parasites. Researchers have been working for better medication by using natural products from medicinal plants (oils, secondary metabolites, plant extracts) and other alternatives to find active compounds as an alternative to the current synthetic drugs.

Materials and Methods: To find more potential natural products to treat Leishmania spp., a study has been conducted and reported many plant metabolites and other natural alternatives from plants and their extracts. Selected research papers with few term words such as natural products, plant metabolites, Leishmaniasis, in vivo, in vitro, and treatment against leishmaniasis in the Google Scholar, PubMed, and Science Direct databases with selected research papers published between 2015 and 2021 have been chosen for further analysis has been included in this report which has examined either *in vivo or in vitro* analysis.

Seminars / Conferences / Guest Lecture Certificates (2024-2025)



Our Ref: MHRD Annual Convention Date: 1st February 2025

To,
Dr. Aparna Vibhuti
Professor, Biotechnology
SRM University Delhi-NCR Sonepat

Subject: Gratitude for Your Participation in the 8th Annual Convention reg.

Respected Ma'am,

Greetings from the Director of Indian Institutes (IIIS)!

On behalf of IIIS, we extend our sincere appreciation for your active participation in the Annual Convention On Theme: Role of Academic Institutions and Research Organizations in the Viksit Bharat Mission Initiative (1st January 2025 at NIIS Noida)

Your insightful thoughts and engagement contributed significantly to making the event a resounding success. The convention provided a platform for intellectual discourse, collaboration, and knowledge-sharing, all of which are essential for advancing transformative initiatives in the healthcare and medical sciences sector. Your expertise and thought leadership added great value to the discussions and deliberations.

IIIS remains committed to fostering innovation, excellence, and collaboration in medical education. We look forward to engaging with you further, leveraging your valuable insights and expertise to [illegible] in the future.

We encourage you to stay connected with IIIS and continue contributing to the vibrant academic community. Your support and participation are crucial in driving meaningful change and shaping the future of medical education and healthcare in India.



Certificate



MALAVIYA MISSION TEACHER TRAINING PROGRAMME

Certificate of Participation

FDP on NEP-2020: Orientation & Sensitization

This is to certify that Prof. Arpana Vibhuti, SRM University Delhi-NCR Sonepat Haryana, has successfully completed the FDP on NEP-2020: Orientation & Sensitization under Malaviya Mission - Teacher Training Programme (MM-TTP) of University Grants Commission (UGC), MoE, GoI, organized by UGC- MMTTC, JNV University, Jodhpur, Rajasthan, from 01 to 10 March 2025 with grade A+.

Prof. Rajesh Kumar Gupta
Director, UGC MMTTC



SRM UNIVERSITY DELHI-NCR, SONEPAT

FIVE DAYS
FACULTY DEVELOPMENT PROGRAMME ON
"RESEARCH METHODOLOGY: A ROADMAP TO EFFECTIVE RESEARCH"
CERTIFICATE OF PARTICIPATION

This is to certify that Dr. / Mr. / Ms. Arpana Vibhuti Dept. / Centre of Biotechnology / Chemistry participated in five days Faculty Development Programme (FDP) on "Research Methodology: A Roadmap to Effective Research" organized jointly by Dept. / Centre of Management & Commerce, Department of Biotechnology, Department of Basic Sciences & Mathematics, SRM University Delhi-NCR, Sonepat from 23rd - 27th January, 2024.



SRM University Delhi-NCR, Sonepat, Haryana

Executive Development Program
on
Role of Effective Leadership
15th-19th January 2024

CERTIFICATE

This is to certify that Prof. / Dr. / Mr. / Ms. Arpana Vibhuti from department of Biotechnology participated in one week Executive Development Program (EDP) on "Role of Effective Leadership" organised by SRM University Delhi-NCR, Sonepat, Haryana.



This is to certify that

Dr. Arpana Vibhuti, SRM University Delhi-NCR, Sonepat

has attended one week faculty development program (FDP) on
Advancement in the Synthesis and Application of Functional Materials
organized by the Department of Chemistry, SRM University Delhi-NCR, Sonepat, Haryana
From 27th to 31st May, 2024 and passed the assessment test successfully.

Dr. Avinash Singh, Coordinator, FDP
Dr. Prashant Kumar, Coordinator, FDP
Dr. Ajit Kumar, Coordinator, FDP



CERTIFICATE
OF PARTICIPATION
05-11TH AUGUST 2024

This is to certify that
Dr. Aparna Vibhuti
SRM University Sonepat Haryana
attended one-week faculty development program (FDP) on
"Climate Change & Its Impact on Agriculture"
jointly organized by the Department of Environment Sciences & Department of Agriculture Science, SRM University Delhi-NCR, Sonepat, Haryana and passed the assessment test successfully.

Dr. Ajit Kumar, Coordinator, FDP
Dr. Ajay Pandit, Coordinator, FDP
Dr. Sajad Ali, Convenor, FDP
Dr. M. Laxmi, Convenor, FDP
Prof. Rakesh Sinha, Dean Faculty of Science



Five Days
Faculty Development Program (FDP)
on
EMERGING DIGITAL TECHNOLOGIES
(28th January - 2nd February 2024)
Department of Mechanical Engineering
SRM University Delhi - NCR, Sonepat, Haryana

CERTIFICATE

This is to certify that Dr. / Mr. / Ms. Arpana Vibhuti of Biotechnology has participated in Five Days Faculty Development Program (FDP) on Emerging Digital Technologies held from 28th January - 2nd February 2024.

NAAC ACCREDITED A+ GRADE

SRM UNIVERSITY
DELHI-NCR, SONEPAT

CERTIFICATE

OF PARTICIPATION

05-11TH AUGUST 2024

This is to certify that

Dr. Aparna Vibhuti

SRM University Sonepat Haryana

attended one-week faculty development program (FDP) on

"Climate Change & Its Impact on Agriculture"

jointly organized by the Department of Environment Sciences & Department of Agriculture Science, SRM University Delhi-NCR, Sonepat, Haryana and passed the assessment test successfully.

Dr. Akshi Goyal	Dr. Ajay Patel	Dr. Uqab Ali	Dr. N.L.Saroj	Prof. Rakesh Dube
Coordinator, FDP Environment Sciences	Coordinator, FDP Agriculture Science	Convenor, FDP Environment Sciences	Convenor, FDP Agriculture Science	Dean Faculty of Science & Humanties

SRMIC/CRT/CC/005

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DEPARTMENT OF
SCIENCE & TECHNOLOGY

SRM UNIVERSITY
DELHI-NCR, SONEPAT

INTERNATIONAL CONFERENCE ON

FUTURISTIC DEMANDS AND EMERGING TECHNOLOGIES IN ENVIRONMENT AND AGRI-FOOD SCIENCE FOR SUSTAINABLE SOLUTIONS (DET-EAS-2025)

Supported by: Anusandhan National Research Foundation (ANRF-SERB)

Presents this certificate of appreciation to

Prof./Dr./Mr./Ms./ Mrs. Dr. Arpana Vibhuti

of SRM University, Delhi-NCR, Sonepat

for being the Co-Chair in International conference on **DET-EAS-2025** during 21-22 February 2025.

Convener

Dr. Ramendra Pati Pandey
Organising Secretary

Prof. (Dr.) Rakesh Dube
Dean - Science & Humanities

Prof. (Dr.) V. Samuel Raj
Dean Academic Affairs

NAAC ACCREDITED A+ GRADE

SERB DIA

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DEPARTMENT OF
SCIENCE & TECHNOLOGY

SRM UNIVERSITY
DELHI-NCR, SONEPAT

INTERNATIONAL CONFERENCE ON
FUTURISTIC DEMANDS AND EMERGING TECHNOLOGIES IN ENVIRONMENT AND AGRI-FOOD SCIENCE FOR SUSTAINABLE SOLUTIONS (DET-EAS-2025)

Supported by: Anusandhan National Research Foundation (ANRF-SERB)

Presents this certificate of appreciation to

Prof./Dr./Mr./Ms./ Mrs. Dr. Arpana Vibhuti

of SRM University, Delhi-NCR, Sonepat

for being the Session Chair in International conference on **DET-EAS-2025** during 21-22 February 2025.

Convener

Dr. Ramendra Pati Pandey
Organising Secretary

Prof. (Dr.) Rakesh Dube
Dean - Science & Humanities

Prof. (Dr.) V. Samuel Raj
Dean Academic Affairs

SRMIC/CRT/010

विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

SRM UNIVERSITY
DELHI-NCR, SONEPAT

INTERNATIONAL CONFERENCE ON

FUTURISTIC DEMANDS AND EMERGING TECHNOLOGIES IN ENVIRONMENT AND AGRI-FOOD SCIENCE FOR SUSTAINABLE SOLUTIONS (DET-EAS-2025)

Supported by: Anusandhan National Research Foundation (ANRF-SERB)

Presents this certificate to

Prof./Dr./Mr./Ms./ Mrs. Arpana Vibhuti

of SRM University Delhi, NCR for having participated/ presented paper on

Antimicrobial- Resistant pathogens in Food

in International conference on **DET-EAS-2025** during 21-22 February 2025.

Dr. Uqab Ali Baba Convener	Dr. Ramendra Pati Pandey Organising Secretary	Prof. (Dr.) Rakesh Dube Dean - Science & Humanities	Prof. (Dr.) V. Samuel Raj Dean Academic Affairs

Hypobaric Hypoxia Society, Delhi

7th INTERNATIONAL LEH SYMPOSIUM 2024

4-7 August 2024

Certificate

It is pleasure to certify that Dr Arpana Vibhuti delivered a lecture on the research work titled *"Telomere dynamics in hypobaric hypoxia pathophysiology"* during the 7th International Leh Symposium held at Mahabodhi International Meditation Centre, Leh, Ladakh, India.

Dr. Tashi Thinlas
Co-organizer
Sonam Norboo Memorial Hospital, Leh

Dr. M.A. Qadar Pasha
President
Hypobaric Hypoxia Society

NAAC ACCREDITED A+ GRADE

SRM UNIVERSITY DELHI-NCR, SONEPAT
FACULTY OF MANAGEMENT AND COMMERCE

SRM UNIVERSITY DELHI-NCR, SONEPAT

CERTIFICATE OF APPRECIATION

FOR

RESEARCH REVELATIONS: ELEVATING STUDENT IDEAS

This is to certify that

Dr. Archana Vibhuti (Professor) BT & MB

has participated as Judge in the event entitled

"Research Revelations: Elevating Student Ideas" organised by SIP and Live Project Committee, Faculty of Management and Commerce, SRM University Delhi-NCR, Sonepat on

20th May 2025.

Prof. (Dr.) Satish Menon
Dean (Management & Commerce)

Prof. (Dr.) V. Samuel Raj
Dean Academic Affairs

IPL FOUNDATION

SRM UNIVERSITY DELHI-NCR, SONEPAT

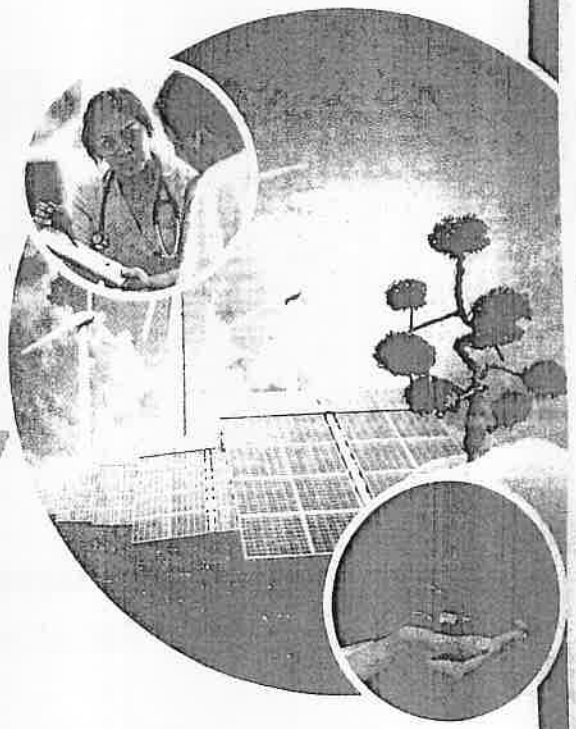
(ACCREDITED BY NAAC WITH A+ GRADE)

SRM UNIVERSITY
DELHI-NCR, SONEPAT

CONFERENCE ON

THE INTERSECTION OF SUSTAINABILITY, ONE-HEALTH AND AGROECONOMICS

A GLOBAL PERSPECTIVE FOR HUMAN WELFARE



Prof./ Dr./ Mr./ Ms. Arpana Vibhuti

of Dept. of Microbiology, SRMUH for being part of the conference on "The Intersection of Sustainability, One-Health and Agroeconomics" as a **member of Organizing Committee** on 21 March, 2025 at SRM University Delhi-NCR, Sonepat and helping in making this conference a success.

Prof. Anjali Priyadarshini

Prof. Renu Choudhary

Prof. V. Samuel Raj

IPL FOUNDATION

SRM UNIVERSITY DELHI-NCR, SONEPAT

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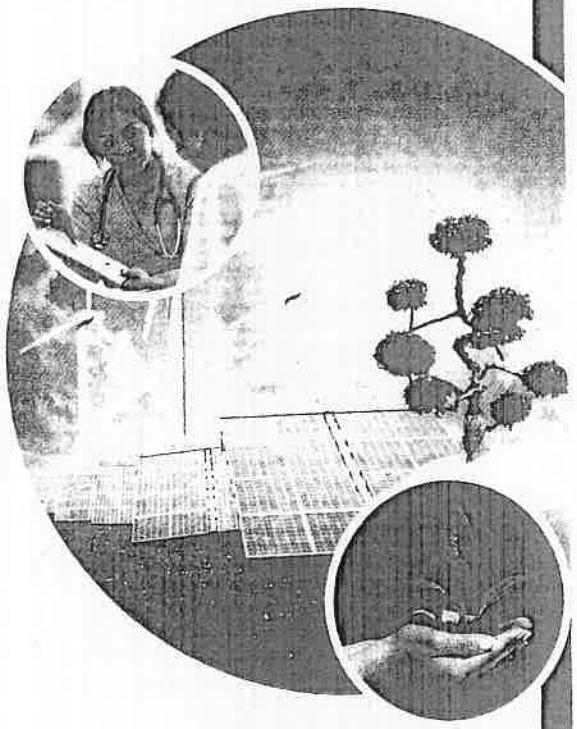
THE INTERSECTION OF SUSTAINABILITY, ONE-HEALTH AND AGROECONOMICS

A GLOBAL PERSPECTIVE FOR HUMAN WELFARE



Prof./ Dr./ Mr./ Ms. Anpana Vibhuti

of Department of Microbiology, SRM University, Delhi-NCR

has participated in the conference on "The Intersection of Sustainability, One-Health and Agroeconomics" on 21 March, 2025 at SRM University Delhi-NCR, Sonepat.

Prof. Anjali Priyadarshini
Convenor

Prof. Renu Choudhary
Convenor

Prof. V. Samuel Raj
Chairman

CERTIFICATE

OF APRECIATION

SRM UNIVERSITY
DELHI-NCR, SONEPAT

This certificate is proudly presented to

Prof. Arpana Vibhuti, Coordinator

Workshop

on

The Science behind Bread Making: Fermentation Technology

Organized by Department of Biotechnology & Microbiology in Association with Institute of Hotel Management at SRM University Delhi-NCR Sonepat on 27th May 2025

Prof. V. Samuel Raj
Dean Academic Affairs

Government of India

MALAVIYA MISSION
TEACHER
TRAINING PROGRAMME

ज्ञान-विज्ञान विमुक्तये
University Grants Commission

Certificate of Participation

FDP on NEP-2020: Orientation & Sensitization

This is to certify that **Prof. Arpana Vibhuti,** SRM University Delhi-NCR Sonepat Haryana, has successfully completed the FDP on **NEP-2020: Orientation & Sensitization** under Malaviya Mission - Teacher Training Programme (MM-TTP) of University Grants Commission (UGC), MoE, GoI, organized by UGC- MMTTC, JNV University, Jodhpur, Rajasthan, from 01 to 10 March 2025 with grade **A+**.

Prof. Rajesh Kumar Dubey
Director, UGC-MMTTC

SRM UNIVERSITY
DELHI-NCR, SONEPAT

Ref No. SRMUH/RO/SM/007

Date:- 24 April 2023

To,

Dr. Arpana Vibhuti
Faculty of Science & Humanities
Biotechnology

Sub: **Financial Assistance for the project titled "Elucidating the relationship between Telomere Length and Biomarkers of Allergy & Asthma in lieu of their potential in Mast Cell activation".**

Dear Sir,

This is to inform you that the above-mentioned project proposal has been approved at a total cost of Rs. 90,000/- subject to the following conditions.

a) Letter of consent to take up the project at the above-approved budget.

b) The R&D cell will maintain an account for the project and the entire amount of the grant will be kept in a separate R&D bank account.

c) You need to submit your requirements within the approved budget to the R&D cell.

d) Utilization Certificate (UC) must be provided to the R&D cell after each financial year, as well as an audited statement of accounts relevant to the grant, promptly following the end of each financial year.

Prof. V. Samuel Raj
Registrar

REGISTRAR
SRM University, Delhi-NCR Sonepat,
Plot no. 39, R.G.E.C., P.S. Rai,
Sonepat (HR.)- 131029

FILE NO. CRG/2022/005161

SCIENCE & ENGINEERING RESEARCH BOARD(SERB)

(A statutory body of the Department of Science & Technology, Government of India)

Science and Engineering Research Board
3rd & 4th Floor, Block II
Technology Bhavan, New Mehrauli Road
New Delhi - 110016

Dated: 16 June, 2023

ORDER

Subject: Financial Sanction of the research project titled **Deciphering the Methylation status and expression of telomere & telomerase complex genes under Hypobaric Hypoxia** under the guidance of Dr. Arpana Vibhuti, Biotechnology, SRM University , Plot no.39, rajiv gandhi education city delhi-ncr, sonepat – kundli urban complex,Post office p.s.rai, sonipat, Sonepat, Haryana-131029 and by Dr. Ramendra Pati Pandey, Associate Professor, Biotechnology, SRM University - Release of 1st grant.

Sanction of **Science and Engineering Research Board** (SERB) is hereby accorded to the above mentioned project at a total cost of **Rs. 4357769/- (Rs. Forty Three Lakh Fifty Seven Thousand Seven Hundred and Sixty Nine Only)** with break-up of **Rs. *544489*/- under Capital (Non-recurring) head and Rs.*3813280*/- under General (Recurring) head** for a duration of 36 months. The items of expenditure for which the total allocation of **Rs. 4357769/-** has been approved are given below:

The following budget may be considered for **SRM University, Plot No.39, Rajiv Gandhi Education City Delhi-NCR, Sonepat – Kundli Urban Complex,Post Office P.S.Rai, Sonipat**

S. No	Head	Total (in Rs.)
A	**Non-recurring**	
1	Equipment -> Electroporator MicroPulser -> Gradient Thermal Cycler	544489
A'	*Total (Non-Recurring)*	***544489***
B	**Recurring Items**	
1	Recurring - I : (Research Personnel) Recurring - II : (Consumables, Travel, Contingencies) Recurring - III : Scientific Social Responsibility	1257120 2100000 60000
2	Recurring - IV : (Overhead Charges)	396160
B'	*Total (Recurring)*	***3813280***
C	**Total cost of the project (A' + B')**	**4357769**

2. Sanction of the grant is subject to the conditions as detailed in Terms & Conditions available at website (www.serb.gov.in).

3. Overhead expenses are meant for the host Institute towards the cost for providing infrastructural facilities and general administrative support etc. including benefits to the staff employed in the project.

4. While providing operational flexibility among various subheads under head Recurring-II, it should be ensured that not more than Rs. 1.5 lakh each should be spent for travel and contingency.

5. Budget sanctioned under Scientific Social Responsibility (SSR) is meant only for activites enlisted under SSR norms and under no circumstances it can be reappropriated.

6. As per rule 211 of GFR, the accounts of project shall be open to inspection by sanctioning authority/audit whenever the institute is called upon to do so.

7. The sanctioned equipment would be procured as per GFR and its disposal of the same would be done with prior approval of SERB.

8.The institute will furnish to the SERB, separate Utilization certificate(UCs) financial year wise to the SERB for Recurring (Grants-in-aid General) & Non-Recurring (Grants for creation of capital assets) and an

audited statement of accounts pertaining to the grant immediately after the end of each financial year.

9. The institute will maintain separate audited accounts for the project. A part or whole of the grant must be kept in an interest earning bank account which is to be reported to SERB. The interest thus earned will be treated as credit to the institute to be adjusted towards further installment of the grant.

10. The research personnel sanctioned in the project, if any is co-terminus with the duration of the project and SERB will have no liability to meet the fellowship and salary of supporting staff if any, beyond the duration of the project

11. The institute may refund any unspent balance to SERB by means of a Demand Draft favoring "FUND FOR SCIENCE AND ENGINEERING RESEARCH" payable at New Delhi.

12. The project File no. CRG/2022/005161 should be mentioned in all communications arising from the above project. The organization/institute/university should ensure that the technical support/financial assistance provided to them by SERB should invariably be highlighted/ acknowledged in their media releases as well as in bold letters in the opening paragraphs of their Annual Report.

13. In addition, the investigator/host institute must also acknowledge the support provided to them in all publications, patents and any other output emanating out of the project/program funded by SERB.

14. Sanction order for release of funds under a) Non-recurring and b) Recurring will be issued separately depending on the availability of funds. The project become operational from the day the first release of grant received by the implementing Institute.

T. Thangaradjou

(Dr. Thangaradjou T)
Scientist F
msls@serb.gov.in

To,
Under Secretary
SERB, New Delhi
Copy forwarded for information and necessary action to: -

1.	The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002
2.	Sanction Folder, SERB , New Delhi.
3.	File Copy
4.	Dr. Arpana Vibhuti Biotechnology SRM University , Plot no.39, rajiv gandhi education city delhi-ncr, sonepat – kundli urban complex,Post office p.s.rai, sonipat, Sonepat, Haryana-131029 Email: arpanavibhuti@gmail.com Mobile: 919990358922 Dr. Ramendra Pati Pandey Biotechnology SRM University (Start date of the project may be intimated by name to the undersigned. For guidance, terms & Conditions etc. Please visit www.serb.gov.in.)
5.	Registrar , SRM University, Plot No.39, Rajiv Gandhi Education City Delhi-NCR, Sonepat – Kundli Urban Complex,Post Office P.S.Rai, Sonipat (Receipt of Grant may be intimated by name to the undersigned)

T. Thangaradjou

(Dr. Thangaradjou T)
Scientist F
msls@serb.gov.in

SRM UNIVERSITY
DELHI-NCR, SONEPAT

Ref No. SRMUH/RO/SM/0015 **Date:- 24 April 2023**

To,

Dr Anjali Priyadarshini, Dr Poornima Sheba, Dr. Renu Choudhary, Dr. Arpana Vibhuti

Sub: **Financial Assistance for the project titled "Biovitamins from Sugarcane".**

Dear Sir,

This is to inform you that the above-mentioned project proposal has been approved at a total cost of Rs. 2,00,000/- subject to the following conditions.

a) Letter of consent to take up the project at the above-approved budget.

b) The R&D cell will maintain an account for the project and the entire amount of the grant will be kept in a separate R&D bank account.

c) You need to submit your requirements within the approved budget to the R&D cell.

d) Utilization Certificate (UC) must be provided to the R&D cell after each financial year, as well as an audited statement of accounts relevant to the grant, promptly following the end of each financial year.

Prof. V. Samuel Raj
Registrar

REGISTRAR
SRM University, Delhi-NCR Sonepat,
Plot no. 39, R.G.E.C., P.S. Rai,
Sonepat (HR.)- 131029

NO. SB/YS/LS-155/2014

SCIENCE & ENGINEERING RESEARCH BOARD

5 & 5A, Lower Ground Floor
Vasant Square Mall
Plot No. A, Community Centre
Sector-5, Pocket-5, Vasant Kunj
New Delhi-110070

Dated: 25 May, 2015

ORDER

Subject: Financial Sanction of the research project titled "Telomeres and telomerase activity in adaptation towards hypobaric hypoxia" under the guidance of **Dr.(Ms.) Arpana Vibhuti, Deptt. of Biotechnology, SRM University, 39, Rajeev Gandhi Education City, P.S.Rai(PO), Sonepat-131029, Haryana.**

Sanction of **Science and Engineering Research Board (SERB)** is hereby accorded to the above mentioned project at a total cost of **Rs. 29,29,000/-(Rs.Twenty Nine Lakh Twenty Nine Thousand Only)** with break-up of **Rs. 7,00,000/- under Non-Recurring** and **Rs. 22,29,000/- under Recurring** for a duration of three years. The items of expenditure for which the total allocation of **Rs. 29,29,000/-** has been approved for a period of **three** years, are given below:

Sl. No	Head	Total(in Rs.) for 3 years
A	**Non-Recurring**	
1	Equipment Real Time PCR	7,00,000
A'	Total (Non-recurring)	*7,00,000*
B	**Recurring**	
1	Recurring-A (Manpower, Consumables, Travel, Contingencies (includes Analytical Charges))	19,29,000
2	Recurring– B (Overhead Charges)	3,00,000
B'	Total (Recurring)	*22,29,000*
C	**Total cost of the project (A' + B') for 3 years**	**29,29,000**

Recognition As an Expert Outside SRMUH

Academic/Research Activity	Nature of Responsibility
1. DST nominee as an expert for Defence /Army Projects	DRDO/Army Project review
2. Agriculture Scientist Recruitment Board (ASRB) External expert	Paper Setting & Manpower Recuitment
3. External Expert Recruitment Member IGIB CSIR	Research Staff Recruitment
4. VC nominee of Bharthiar University for PhD Student at INMAS DRDO	Research Progress Review
5. Treasurar of Hypobaric Hypoxia Society	Society finance Head
6. PVRI nominated member UK	Pulmonary Research expert
7. Ph.D. Thesis Evaluator	Bharathidasan University
8. BIS Annual Convention 2025	Invitee in Meeting
9. External examiner Invitation	SGT University



Dr. Arpana Vibhuti

Professor
Verified email at srmuniversity.ac.in
Toxicogenomics Molecular Biology

FOLLOW

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Citations	2199	1748
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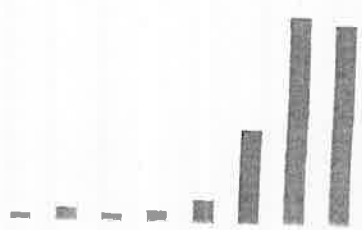
i10-index	22	18

TITLE	CITED BY	YEAR
Determination of Antioxidants by DPPH Radical Scavenging Activity and Quantitative Phytochemical Analysis of *Ficus religiosa* S Baliyan, R Mukherjee, A Priyadarshini, A Vibhuti, A Gupta, RP Pandey, Molecules 27 (4), 1326	1206	2022
Correlation of oxidative status with BMI and lung function in COPD A Vibhuti, E Arif, D Deepak, P Singh, MAQ Pasha	103	2007



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Invitation for Technical Evaluation of proposals for Army Design Bureau, India

Coordinator DST-TEC ANNA UNIVERSITY <tecannauniversity@gmail.com>
to arpanuv@annauniv.edu, me, Meenakshisundaram

Dear Madam,

Greetings for the day !

It is to inform you that Army Design Bureau, Indian Army, Ministry of Defense has empowered DST – Technology Enablin, **(Problem Statement – 48 ; Project Title: Acclimatisation For High Altitude Deployment)** problem statements from Indian Arm

In this regard, we are pleased to invite you to be part of the Panel to evaluate the proposals as per the format (to be provide you are requested to sign a consent document, to agree the terms.

The draft of the consent form is attached herein in this mail along with the description of the problem statement. I herew participate in the Evaluation process. Upon receipt of the same, I shall send the filled-in consent form to be signed by you.

Further the proposals will be sent to your official designated E Mail.

Honorarium will be paid as per guidelines of DST, Govt of India.

Thanking you,

With best regards,

Prof. S Meenakshisundaram

Prof.S.Meenakshisundaram,
Chairman,
Entrepreneurship Development and Innovation Council
and Coordinator,
Technology Enabling Centre,

Gmail asrb

Compose

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ASRB: Moderation of Question Papers & Question Bank for NET (Prelims) Exa

Personal Assistant <pacoe.asrb@gmail.com>
to [redacted]me

Dear Mam,

The Agriculture Scientists Recruitment Board conducts National Eligibility Test (NET) in [redacted] moderator for Question Paper(s) and Question Bank.

We request you to kindly make your presence at ASRB, New Delhi for the same for **two days**. Kindly [redacted]

Mam, as per telephonic conversation you are requested to moderate Question Paper of **Bioinformatics for Unit III, Unit V & Unit VI**

Please find attached copy of syllabus for both the Disciplines. **Kindly check the syllabus for these u for the mentioned units**

Kindly mail your TRAVEL PLAN so that we can book the accommodation timely.

Thank You

Regards

ASRB

मानक: पथप्रदर्शक:

Government of India

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

Our Ref: MHD/Annual Convention **Date 10 February 2025**

To,
Dr. Arpana Vibhuti
Professor, Biotechnology
SRM University Delhi NCR Sonepat

Subject: Gratitude for Your Participation in the BIS Annual Convention-reg.

Respected Ma'am,

Greetings from the Bureau of Indian Standards (BIS)!

On behalf of BIS, we extend our sincere appreciation for your active participation in the Annual Convention for Deans/HoDs of Academic Institutions and Research Organizations in the Healthcare Sector, held on 31 January 2025 at NITS, Noida.

Your presence, valuable insights, and engagement contributed significantly to making this event a resounding success. The convention provided a platform for intellectual discourse, collaboration, and knowledge-sharing, all of which are essential for advancing standardization in the healthcare and medical devices sector. Your expertise and thought leadership added great value to the discussions and deliberations.

BIS remains committed to fostering innovation, excellence, and adherence to international standards in the healthcare domain. We firmly believe that academia and research institutions play a crucial role in shaping the future of standardization, and your involvement is integral to this mission.

We encourage you to stay connected with BIS and continue contributing to this national cause. Your inputs and participation in future standardization initiatives will help strengthen India's position as a global leader in quality and safety standards. We would be honoured to collaborate with you in upcoming projects, technical committees, and policy discussions that drive progress in this field.

Once again, we thank you for your support and commitment. We look forward to working closely with you in the future to further our shared vision of a standard-driven, innovation-led India.

Should you require any further information or wish to engage in future initiatives with BIS, please feel free to contact us.

Warm regards,



Chinmay Dwivedi
Sc. 'E' & Head (MHD)
Bureau of Indian Standards
Email: mhd@bis.gov.in
Phone No. 01123608216

SRM UNIVERSITY DELHI-NCR, SONEPAT

Dr. Arpana Vibhuti <arpana.v@srmuniversity.ac.in>

Invitation to be an External Expert for Online Project Staff Interview 13-02-2024

3 messages

hrd <hrd@igib.res.in>
To: arpana.v@srmuniversity.ac.in, arpanavibhuti@gmail.com

Fri, Feb 9, 2024 at 10:15 AM

Dear Dr. Arpana Vibhuti,

CSIR-IGIB conducts online interviews to select manpower for the various projects currently running at the institute. This time, we are planning to conduct R&D project staff interview on 13-02-2024 (Tuesday) 10:00 AM onwards. We would like to invite you to be an external expert in the assessment committee.

Date: 13-02-2024

Time: 10:00 AM onwards

Venue: Online mode

Looking forward to hearing from you.

Thank you

Best Regards,

Human Resource Division

Chetana Sachidanandan, PhD.

Senior Principal Scientist, CSIR-Institute of Genomics & Integrative Biology (CSIR-IGIB)

Head, Human Resource, CSIR-IGIB

Professor, Academy of Scientific and Innovative Research (AcSIR)

chetana@igib.in, chetana@igib.res.in

Phone: +91-11-2693-2426 extn 105

https://www.chetanasachidanandan.com/

BHARATHIAR UNIVERSITY :: COIMBATORE - 641 046

FORMATION OF PH.D. DOCTORAL COMMITTEE

Name of the Candidate	PRIYANKA SHAW
Date from which registered	01-01-2021
College name	Inst.of Nuclear Medicine & Allied Sciences, DRDO,Delhi-54
Department	LIFE SCIENCES
Broad field of research	MOLECULAR BIOLOGY
Name of the Supervisor (Convener)	DR.AJAY KUMAR SHARMA
Name of the H.O.D. (Member)	DR.SUDHIR CHANDNA
Name and Address of V.C.'s Nominee	DR.ARPANA VIBHUTI HOD AND ASSOCIATE PROFESSOR SRM UNIVERSITY, SONEPAT, HARAYANA

You are requested to conduct the doctoral committee immediately and send your report in the format available in the University Website under the head "RESEARCH" as early as possible. Further it is informed that the eligible TA/DA is also sanctioned to the external expert (V.C. Nominee) for the above said meeting and the expenditure may be met under the Doctoral Committee Fee paid by the concerned candidate.

COMPUTER GENERATED STATEMENT
NO SIGNATURE NEEDED

REGISTRAR i/c

Gmail

Arpana Vibhuti <arpanavibhuti@gmail.com>

HHS Treasurer

6 messages

qadar pasha <qadarpasha@hotmail.com> Tue, Sep 28, 2021 at 11:19 PM
To: Arpana Vibhuti <arpanavibhuti@gmail.com>, "arpana_vibhuti@yahoo.co.in" <arpana_vibhuti@yahoo.co.in>

Dear Arpana,

I am very pleased to see your whole-hearted support and consent to cooperate in getting the HHS functional and through that to ensure that our very motto of getting the research started either directly under HHS or its sister concern an 'Institute', whatever feasible.

As per the resolution of our 1st GBM of HHS, we select you as the 'Treasurer' of the Society, perhaps, for next three years. We will soon announce this through email. However, we may have to carry with the same Secretary. As of now, we will have several activities and preparation of documents, realizing that a new Secretary may not be able to take the immediate tasks as fast as desired or efficiently, it has been decided to continue with Dr Himanshu N Singh as the Secretary. However, Himanshu won't be an authorized signatory for handling the bank account. Instead only the President and the Treasurer will be authorized signatories, that means I and you will be authorised signatories for handling the bank account. I am confident of your cooperation and thereby together pulling through the ups and downs to hold the Society firmly in achieving its scientific targets/objectives.

Please note that as per the resolutions passed in the 1st GBM, we have to upgrade our two main documents i.e. the Memorandum of Association (MoA) and the Articles of Association (A&A); previously the latter was called Rules & Regulation (R&R). I have sent both the upgraded docs to Himanshu for his endorsement and sign. As soon as I receive the soft or hardcopies,we both will sign.

In the meantime, I am in the preparation of the Bank documents for submission to open a 'Current account'. Tomorrow afternoon, I may consult the SBI, JNU Old campus to verify that the form is filled correctly and that all the compulsory documents, to be attached, are in order.

After completion of all docs, I will sign each as the President. Next is your signature as Treasurer at the same docs. We ought to find a way for your sign. Please email a high-resolution/clean scanned copy of your Aadhaar and PAN cards.
Next emails may follow soon. Please confirm a single email D that is used by you most often.

With Best wishes,

Qadar Pasha
President HHS

Arpana Vibhuti <arpanavibhuti@gmail.com> Wed, Sep 29, 2021 at 8:02 AM
To: Sandeep <sksinmas@gmail.com>

FYI
[Quoted text hidden]

Arpana Vibhuti <arpanavibhuti@gmail.com> Wed, Sep 29, 2021 at 9:16 PM
To: qadar pasha <qadarpasha@hotmail.com>

Dear sir,
Thank you for your email and the post you have offered me. It is really appreciated and I will try my best for the same.

Gmail

Arpana Vibhuti <arpanavibhuti@gmail.com>

Free PVRI membership courtesy of United Therapeutics Corporation & Prof Aastha Mishra

2 messages

Katie Corris <kc@pvrinstitute.org>
To: "arpanavibhuti@gmail.com" <arpanavibhuti@gmail.com>

Thu, Mar 16, 2023 at 8:59 PM

Dear Arpana,

We are delighted to let you know that courtesy of United Therapeutics Corporation and Professor Aastha Mishra (cc'd) you have been nominated for a 2-year free PVRI membership.

We have now set this up on our system. To create your log in details, we have sent you a 'forgotten password' email, please follow the instructions within and create a password. Please be aware that this may have landed in your junk folder.

You can log into your PVRI account on our website, and click on the 'log in' button at the top left corner of your screen.

We'd like to highlight a few resources you might want to take advantage of during your PVRI membership:

- **Annual World Congress** – We are delighted to announce that our next Congress will be held in London, 2024. As a member you will benefit from reduced registration fees. LONDON2023
- **Webinar series 2023/24** – We are excited to bring back our webinar series in early 2023. As a member you will have full access to the entire series. The programme details will be circulated in due course.
- **Digital Clinic with CME credits** – Test your knowledge on the diagnosis and management of pulmonary hypertension with our 15 patient cases. To step into the digital clinic yourself, click on the 'e-learning tab' on our website or follow the link here - E-learning course
- **Online secure discussion forum** – Designed to stimulate a discussion on abstracts, talks and much more. You will be notified if a person has responded to your comment Forum
- **Pulmonary Circulation journal** – Read the latest articles and accepted abstracts from our Congress in Athens from our scholarly journal Pulmonary Circulation PC Journal
- **Community Call** – In this series we invite everyone in the PH community to join the call to discuss the latest news and advancements in PH. These take place on the last Thursday of every month.

We hope you enjoy all these benefits and if you have any problems or queries, please do not hesitate to contact me.

Thank you,

Katie

Gmail

Arpana Vibhuti <arpanavibhuti@gmail.com>

Acceptance Request - Bharathidasan University

1 message

BDU PhD Section <bduphdsection@gmail.com> Wed, Jul 9, 2025 at 6:50 PM
To: arpanavibhuti@gmail.com

Dear Professor,
Greetings from **Bharathidasan University, India**.

I am, by direction, pleased to inform you that you have been appointed as one of the Examiners to adjudicate the Ph.D. thesis submitted by
Name of the Researcher : **PRAVEEN J**
Subject : **BIO INFORMATICS**

The soft copy of the **Synopsis** can be accessed in the following link and provide your kind response **within 7 days** along with your Official Address with Designation via link only.
Click here

Based on your consent, the **soft copy** of the thesis will be sent to you via another link.
The **hard copy** of the thesis will be sent only based on **your request.**
Honorarium for the examiner:
Indian - Rs. 2000/-
Foreign - US$ 150 (paid only to foreign bank accounts for foreign examiners)..

This is a system generated e-mail so please do not reply to this e-mail.

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Invitation for External Examiner

External Inbox ×

Mahesh Kumar Seth <mahesh_fahs@sgtuniversity.org>
to me, Sunita, Controller, Dean, Faculty

Dear Dr. Arpana,
It is a great pleasure to invite you as an **"External examiner"** for Practical exam of MSc Microbiology 2nd semes
Microbiology, Faculty of Allied Health Sciences, SGT University, Gurugram, Haryana. I request you, kindly confir

Topic: Practical Exam
Subject: (Recombinant DNA Technology and Biotechnology (05450204) (MSc Microbiology, 2nd semester stu

Date & Time: 24 June 2024, 09:00 AM

Thanks & Regards

Dr. Mahesh K Seth, Ph.D, MBA
Associate Professor & Head
Department of Microbiology,
Faculty of Allied Health Sciences
Shree Guru Gobind Singh Tricentenary University
(SGT University)
Budhera, Gurugram-122505, Haryana
mahesh_fahs@sgtuniversity.org
www.sgtuniversity.ac.in

Responsibilities in the Department/University

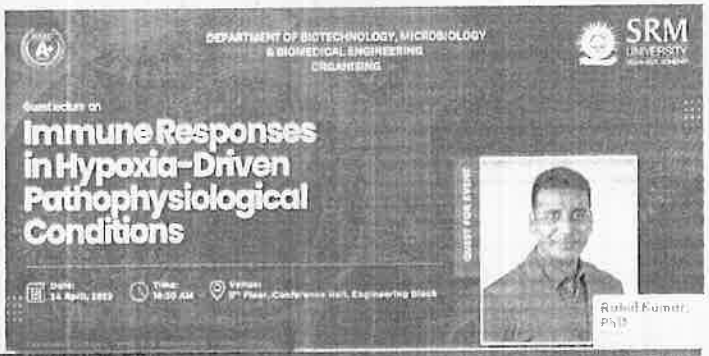
Responsibilities at Department Level	Responsibilities at University Level
1. Head of Department Biotechnology & Microbiology Deptt 2. Head of Department Biomedical Engineering Deptt till July 2023 3. Established BME department and Labs in 2016 4. Established Biotechnology & Microbiology department and Labs in 2018 5. Convener BOS for Biotechnology & Microbiology 6. Convener DRCC Biotechnology & Microbiology 7. Mentoring M.Sc. students for major and minor projects 8. Lab In charge Molecular Biology (C4D) 9. Class In charge for M.Sc. Biotechnology 10. Question Paper Moderation Committee 11. Organizing Committee NSD 24, World Environment Day, WID 12. Guiding four Ph.D. students 13. Organizing team member for "Biofusion" club of BT/MB 14. Organizing committee member of the International Conference on AMR 2024 15.Overall Placement coordinator for Biotechnology & Microbiology 16. Overall ERP coordinator for Biotechnology & Microbiology 17. Guest Lecture Coordinator for Biotechnology & Microbiology 18. Overall Deptt Time Table Coordinator 19. Overall Deptt IQAC Coordinator 20. IAEC member for Animal Handling & Research 21. Organizing committee coordinator of the Workshop on Science behind Bread Making: Fermentation Technology 2025	1. Member Academic Council SRMUH 2. University Disciplinary Committee Member 3. University Anti-ragging Committee member 4. Examination Frisking/Flying Duty 5. University fresher's Aagaz committee member 6. NAAC/NBA Accreditation Committee Member 7. Admission Duty & Counseling duty at various Places/Cities 8. Annual Fest PRISMA Committee member 9. University Anti ragging Committee member 10. University UFM VC nominee member 11.University Convocation Committee Member 12.NPTEL, Swayam, Coordinator & SPOC Person 13. Chairing &Co-Chairing the sessions of International Conference: DET-EAS-2025 by EVS deptt 14. Judge for the Live Project evaluation of Management & Commerce May 2025

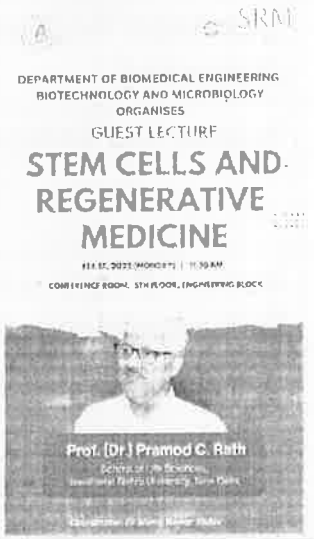
Seminars / Conferences / Guest Lecture Organized (2024-2025)

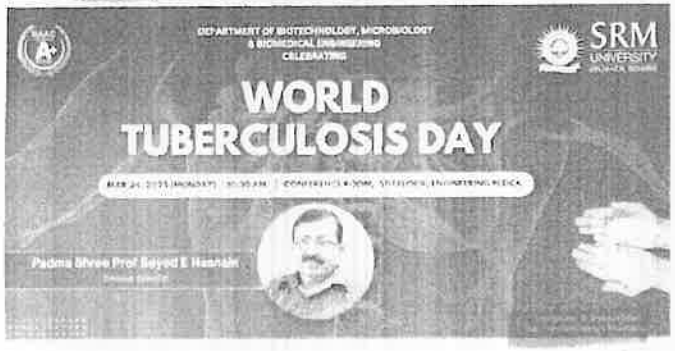
S.No.	Seminar/Webinar/Conference Attended	Speaker	Designation/Affiliation	Date	National/International
1	Science and Technology for Viksit Bharat	Dr W Selvamurthy	Former DG Life Sciences DRDO DG, Amity DSI, Chancellor Amity University Chhattisgarh	15th May 2025	National
2	Immune Responses in Hypoxia Driven Pathophysiological Conditions	Dr Rahul Kumar	Assistant Professor, University of California, SF, USA	24th April 2025	International
3	World Tuberculosis Day	Padma Shri Prof Seyed E Hasnain	Former VC University of Hyderabad & Jamia Hamdard	24th March 2025	National
4	Perpetuated Bronchial Inflammation, Tissue Remodeling, and Angiogenesis in COPD Patients	Prof Hari S Sharma	Pathology & Clinical Bioinformatics at ErasmusMC, Rotterdam, The Netherlands	3rd Dec 2024	International
5	The Intersection of Sustainability, One-Health and Agroeconomics	National Conference	National Conference	21st March 2025	National
6	One day workshop on The Science behind Bread Making: Fermentation Technology & Bread Making Session	Prof K S Narayan	Principal, IHM, SRMUH	26th May 2025	National

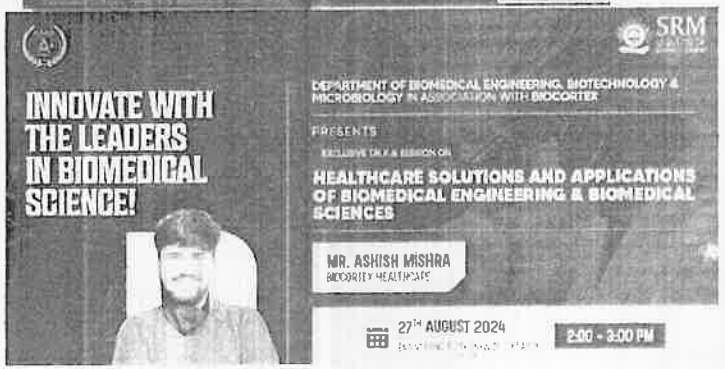
Seminars / Conferences / Guest Lecture Organized (2024-2025)

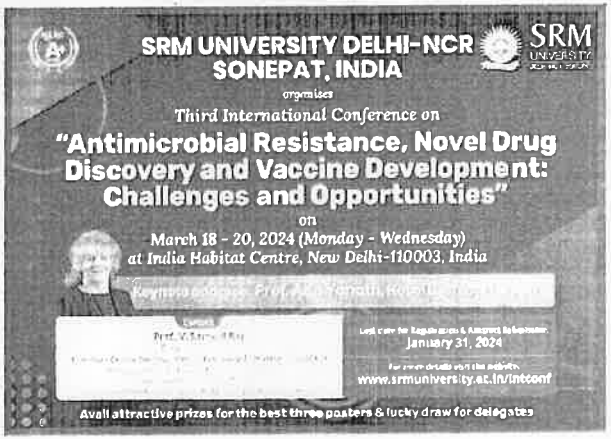
















SRM UNIVERSITY DELHI-NCR, SONEPAT, HARYANA
FACULTY APPRAISAL FORM

Appraisal period: 1st July 2024 to 30th June 2025

GUIDELINES:

- The information provided should be accurate and clear. Additional information, if any, worth mentioning may be provided in a separate sheet.
- The Faculty must read the **Performance Appraisal Form** before filling it.

SECTION –A: PERSONAL INFORMATION

Name	**Dr. Mohd Kaleem**
Employee ID	**41010075**
Date of Birth	**20-06-1990**
Designation	**Assistant Professor**
Department	**Computer Science & Engineering**
Date of Joining (SRMUH)	**08-11-2023**
Experience	Total Experience……11……Years……Months SRMUH……1…… …..Years……10…….Months
Salary	Pay Scale : AGP : Gross Salary:

ACADEMIC PERFORMANCE INDICATORS (APIs)

CATEGORY-I: TEACHING LEARNING AND EVALUATION ACTIVITIES (50)

A-Teaching-Learning (20)

Sl. No.	Course Name & Code	Credits	Course File	Lab Manuals (if applicable)	Pedagogy	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	SOFTWARE ENGINEERING & 21MCA104	4	Yes	N/A	Board & PPT	4		
2	SOFTWARE ENGINEERING LAB & 21MCA154	1	Yes	Yes	〃	1		
3	DATABASE MANAGEMENT SYSTEMS & 23CS2005	3	Yes	N/A	〃	3		
4	DATABASE MANAGEMENT SYSTEMS LAB & 23CS2111	1	Yes	Yes	〃	1		
5	SOFTWARE ENGINEERING & 21CS3004	3	Yes	N/A	〃	3		
6	SOFTWARE	1	Yes	Yes	〃	1		

7	ENGINEERING LAB & 21CS3118 SOFTWARE ENGINEERING & 23BCA403	4	Yes	N/A	11	4		
8	ADVANCED EXCEL SKILLS & 23SS202	1	Yes	Yes	11	1		
9	LIVE PROJECTS & 23BCA407	1	N/A	N/A	11	9		
					Average	20		

(NOTE: Full credits 4 Marks and Half credits 2 Marks)

B-Assessment & Evaluation (15)

Sl. No.	Evaluation Parameters	Course Name	Credits	Level of Questions	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	Assignments	SOFTWARE ENGINEERING,DATA BASE MANAGEMENT SYSTEMS	3,4	Understanding	3		
2	Quiz/Surprise Tests/Presentation	SOFTWARE ENGINEERING,DATA BASE MANAGEMENT SYSTEMS	3,4	Understanding	3		
3	Projects	LIVE PROJECTS	1	Creating	3		
4	MSTs	SOFTWARE ENGINEERING,DATA BASE MANAGEMENT SYSTEMS	3,4	Understanding and Analyzing	3		
5	End Semester Examination	SOFTWARE ENGINEERING,DATA BASE MANAGEMENT SYSTEMS	3,4	Understanding and Analyzing	3		
				Average	15		

(NOTE: Each point carries 3 marks)

C-Academic Results (Learning Outcome) (5)

Sl. No.	Courses	Credits	Continuous Evaluation Marks	End Sem Marks	Over all Pass %	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	SOFTWARE ENGINEERING & 21MCA104	4	40	60	100	10		
2	SOFTWARE ENGINEERING LAB & 21MCA154	1	60	40	100	10		
3	DATABASE MANAGEMENT SYSTEMS & 23CS2005	3	40	60	91.86	10		
4	DATABASE MANAGEMENT SYSTEMS LAB & 23CS2111	1	60	40	100	10		
5	SOFTWARE ENGINEERING	3	40	60	99.07	10		

6	& 21CS3004 SOFTWARE ENGINEERING LAB & 21CS3118	1	60	40	100	10		
7	SOFTWARE ENGINEERING & 23BCA403	4	40	60	96.30	10		
8	ADVANCED EXCEL SKILLS & 23SS202	1	60	40	100	10		
9	LIVE PROJECTS & 23BCA407	1	60	40	100	10		
					Average	**5**		

(NOTE: If the pass % is above 90, it is 10 points, else if the average of pass% will be taken with reference to last year's result)

D-New /Additional Course, Innovative Pedagogy, Value Added Topics & Remedial Classes: (5)

Sl. No.	Nature of Additional Teaching related Work	Class	No. of Lectures taken	Necessity/ Reason	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	New/Additional Course						
2	Innovative Pedagogy						
3	Value Added Topics						
4	Remedial Classes						
				Average			

(NOTE: Each point 1.25 marks)

E- Student's Feedback (5)

Sl. No.	Course Name & Code	Credits	Students Feedback	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
1	SOFTWARE ENGINEERING & 21MCA104	4					
2	SOFTWARE ENGINEERING LAB & 21MCA154	1					
3	DATABASE MANAGEMENT SYSTEMS & 23CS2005	3					
4	DATABASE MANAGEMENT SYSTEMS LAB & 23CS2111	1					
5	SOFTWARE ENGINEERING & 21CS3004	3					
6	SOFTWARE ENGINEERING LAB & 21CS3118	1					
7	SOFTWARE ENGINEERING & 23BCA403	4					
8	ADVANCED EXCEL SKILLS	1					

9	& 23SS202 LIVE PROJECTS & 23BCA407	1					
				Average			

(NOTE: Feedback Scale: 0-7. Feedback students having more than 75% attendance will be considered)

CATEGORY-II: RESEARCH, TRAINING & CONSULTANCY ACTIVITIES (25)

F- Publications (15/18)

Sl. No.	Details of Paper/Book/Book Chapter/Review	National/International	INDEXED	Impact Factor	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	QoS-Aware Middleware for WBAN Applications	International	Scopus	NA	15		
2	Performance Optimization and Link Reliability in Wireless Body Area Networks	International	Scopus	NA	15		
				Average	**15**		

(NOTE: For E&T & Science 15 Marks and other Departments 18 Marks)

G- Projects (5/7)

Sl. No.	Title of the Project	Details of PI & Co-PI	Funding Organization	Amount	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
				Average			

(NOTE: For E&T & Science 5 Marks and other Departments 7 Marks)

H- Patent (applicable only for E&T & Science) (5)

Sl. No.	Title of Patent	Filing/Published details	Place	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
1	Blockchain Device for Data Security	Published (16-12-2024)	SRM	5			
			Average	5			

(NOTE: Applied 2 Marks and published patent 5 marks)

CATEGORY-III: ACADEMIC-ADMINISTRATIVE ACTIVITIES (20)

I-Academic Administration Responsibility (20)

Sl. No.	Academic Administration related Activity	Nature of Responsibility	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	Departmental Coordinator of External Practical Examination	External Practical Examination	2		
2	Departmental ERP Coordinator (B.Tech - III Year & M.Tech)	ERP	2		
3	Core Team Member for Internal Examination (I & II)	Internal Examination	2		
4	NAAC Departmental Coordinator (Criteria – II)	NAAC (Criteria-II)	2		
5	Departmental Member of the Project Committee	Project Committee Member	2		
6	Course Coordinator	Course Coordinator	2		
7	Class Incharge (BCA - III Year)	Class Incharge	2		
8	Project Guide (B.Tech)	Project Work	2		
9	Lab Incharge (L-12)	—	Average 16+2=18		

(NOTE: Each activity 2 marks)

CATEGORY-IV: PROFESSIONAL DEVELOPMENT ACTIVITY (3)

J. Workshop/FDPs/Conference Attended as participant or Resource person (3)

Sl. No.	Workshop/FDPs/ Conference Attended	Period (From…to…)	National /International	Published in Proceedings (Y/N)	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	TENSORFLOW	3-5th July 2024	National	N/A	3		
		Average			3		

Note: For each day max 1 point for participation and max 2 points for resource person

CATEGORY-V: PROFESSIONAL MEMBERSHIP (2)

Sl. No.	Organization	Joining date

NOTE: Any other information which is not covered in the form and you feel that is very import for your appraisal. (Attach separate sheet).

Enclosures:

1. Provisional Certificate
2. Patent Certificate
3. Research Paper
4. Reviewer Certificate
5. FDP
6. Result Abstract Report
7.
8.
9.
10.
11.
12.

Declaration: I hereby declare that the information given above is true to the best of my knowledge and belief.

Date: 15-09-2025

(Name & Signature of Faculty)
Dr. Mohd Kaleem

[FOR OFFICIAL USE ONLY]

HR Section:

Type of Leave	CL	ML	LoP	PER	OD (OW)	RH	CO	Non-Punch	VL	AL	Special Leave-Covid-19
Availability	12	30	10	36	30	3	20	10			14
Availed											

Date:

(Signature of HR)

SUMMARY SHEET

Sl. No.	Criteria	SCORES	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
I	Teaching learning and evaluation activities	50	45		
II	Research, training & consultancy activities	25	20		
III	Academic administration activities	20	16 + 2 = 18		
IV	Professional development activity	3	3		
V	Professional membership	2			
	Average	100	84+2 =86		

Recommendation of Appraisal Committee

Date: (Signature of Chairman of the Committee)

(Vice Chancellor)

Dear HR Manager,

15-09-2025

I am writing to formally inform you that I have successfully completed my Doctor of Philosophy (PhD) in Computer Science & Engineering from SRM University (Modinagar Campus) on 21-04-2025.

In accordance with the university's policy regarding educational advancements and corresponding compensation adjustments, I kindly request you to revise my current pay scale.

Although I had mail to HR on the respective dates 20-05-2025, 05-06-2025 and 24-08-2025, I didn't receive any response.

May I request you to kindly acknowledge the same and do what is necessary as per SRM Norms. Moreover, if you need any other information please let me know.

Attaching copies of my PhD provisional certificate and updated CV for your reference.

Thanks & Regards,
Dr. Mohd Kaleem
Assistant Professor
Department of Computer Science & Engineering
SRM University, Sonipat, Haryana
Employee ID 41010075

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF THE UGC ACT, 1956)



PROVISIONAL CERTIFICATE

FOLIO NO. : **P250200**
ABC ID : **493983656126**

FACULTY OF ENGINEERING AND TECHNOLOGY

This is to certify that the following candidate has qualified for the award of Ph.D. as detailed below

Register Number	:	RC2113003011077
Name	:	MOHD KALEEM [20-JUN-1990]
Degree / Diploma	:	DOCTOR OF PHILOSOPHY [Ph.D.]
Branch / Specialisation	:	COMPUTER SCIENCE AND ENGINEERING
Month and Year of Passing	:	APRIL 2025
Title of the Thesis	:	A STUDY ON TECHNIQUES TO ENSURE QUALITY OF SERVICE IN WIRELESS BODY AREA NETWORKS [COMPUTER SCIENCE AND ENGINEERING].

Signature of the Candidate :

Date : 21-Apr-2025

Controller of Examinations
SRM NAGAR
603 203
SRM IST

SRM Nagar, Kattankulathur - 603 203
Chengalpattu (Dt.), Tamil Nadu, India.

This certificate bears no correction(s)

CONTROLLER OF EXAMINATIONS

Read By	
Verified by	R. Atey.

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डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No. : 424886-001

तारीख / Date : 26/07/2024

पारस्परिकता तारीख / Reciprocity Date* :

देश / Country :

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *BLOCKCHAIN DEVICE FOR DATA SECURITY* से संबंधित है, का पंजीकरण, श्रेणी 14-02 में 1.Kshitiz Saxena 2. Dr. Kavita Suresh Kumavat 3.Mr. Mohd Kaleem 4.Mr. Srinivasa Rao Vemula 5.Dr. Prakash Kumar 6.Mr. Maruthi Mukhesh Vemula के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 14-02 in respect of the application of such design to *BLOCKCHAIN DEVICE FOR DATA SECURITY* in the name of 1.Kshitiz Saxena 2. Dr. Kavita Suresh Kumavat 3.Mr. Mohd Kaleem 4.Mr. Srinivasa Rao Vemula 5.Dr. Prakash Kumar 6.Mr. Maruthi Mukhesh Vemula.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।

In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

जारी करने की तिथि :
Date of Issue : 16/12/2024

उन्नत पी पंडित
महानियंत्रक पेटेंट, डिजाइन और व्यापार चिह्न
Controller General of Patents, Designs and Trade Marks

*पारस्परिकता तारीख (यदि कोई हो) जिसकी अनुमति दी गई है तथा देश का नाम। डिजाइन का स्वत्वाधिकार पंजीकरण की तारीख से दस वर्षों के लिए होगा जिसका विस्तार, अधिनियम एवं नियम के निबंधनों के अधीन, पाँच वर्षों की अतिरिक्त अवधि के लिए किया जा सकेगा। इस प्रमाण पत्र का उपयोग विधिक कार्यवाहियों अथवा विदेश में पंजीकरण प्राप्त करने के लिए नहीं हो सकता है।

The reciprocity date (if any) which has been allowed and the name of the country. Copyright in the design will subsist for ten years from the date of Registration, and may under the terms of the Act and Rules, be extended for a further period of five years. This Certificate is not for use in legal proceedings or for obtaining registration abroad.

QoS-Aware Middleware for WBAN Applications

Mohd Kaleem
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Kaleemur Rehman
Department of Artificial Intelligence
G.L. Bajaj Institute of Technology and Management
Greater Noida, Uttar Pradesh, India

***Abstract*—Wireless Body Area Networks (WBANs) are pivotal in healthcare, lifestyle assistance, and entertainment applications. This paper surveys the landscape of QoS-aware middleware solutions for WBANs, addressing the unique challenges posed by these networks. Key QoS requirements, such as reliability, timeliness, energy efficiency, and security, are outlined. Various middleware architectures, including client-server, mobile agent, tuple space, and service-oriented approaches, are classified based on design criteria such as architecture pattern, platform, network topology, and implementation technology. Key features and representative middleware solutions for each category are discussed. Challenges and open research issues in developing QoS-aware middleware for WBANs are identified. As WBANs continue to revolutionize healthcare and well-being monitoring, innovative middleware designs will play a crucial role in realizing their potential.**

Keywords*—*WBAN, QoS, middleware, healthcare, reliability, timeliness, energy efficiency, security, architecture, survey, challenges, IoT.

I. Introduction (*Heading 1*)

Wireless Body Area Networks (WBANs) have emerged as a key technology for various applications like healthcare monitoring, lifestyle assistance, and entertainment. A WBAN consists of various tiny, intelligent devices like sensors and actuators that are placed on, around, or even inside the human body to monitor physiological signals and provide various services. The data from these sensors can be transmitted wirelessly to remote medical servers or cloud infrastructure for storage, processing, and analysis. This facilitates remote health monitoring and diagnosis [1]. WBANs aim to provide ambulatory health monitoring with real-time updates of medical records via the Internet. However, WBANs have some unique characteristics that introduce several challenging issues compared to traditional wireless sensor networks. The sensors are placed on or inside the human body and have very limited energy, processing, and storage capabilities. The wireless channels exhibit significant fading and attenuation due to the complex on-body and off-body propagation environment. There are also strict requirements on reliability, security, and Quality of Service (QoS) due to the critical nature of healthcare applications. Hence, providing QoS guarantees in WBANs is crucial but also complex and difficult.

An efficient middleware solution can help address these challenges and enable QoS support in WBANs [2]. Middleware is a software layer between the application and the underlying operating system, network protocol stack, and hardware. It abstracts the complexity and heterogeneity of the underlying system from the application. The middleware can have in-built support for various QoS management mechanisms like dynamic resource allocation, traffic prioritization, congestion control, and error control. It can also implement service discovery, interoperability, data management, security, and other common functionalities required by WBAN applications. Overall, a well-designed QoS-aware middleware can significantly simplify application development, reduce development costs and effort, while also supporting the required QoS for healthcare applications.

In this paper, we provide a comprehensive survey of QoS-aware middleware solutions proposed for WBANs. The key QoS requirements, challenges, and design issues are first outlined. We then provide a taxonomy and qualitative comparison of state-of-the-art middleware architectures based on design aspects like architecture pattern, platform, network topology, implementation technology, and key features. We also discuss and compare the various QoS support mechanisms like scheduling, dynamic configuration, error control, and security implemented by different middleware solutions. Finally, open research issues are highlighted and future directions are indicated.

II. Literature Review

Quality of Service (QoS) optimization, significant research has been conducted to address the challenges and requirements associated with resource management and performance enhancement. The following is a review of previous works in the field:

A. Automatic QoS-Aware Resource Partitioning Framework

This framework aimed to maximize system performance through intelligent resource allocation. Notably, they utilized a Deep Q-learning Network (DQN) to optimize resource partitioning, particularly in scenarios of CPU overload. The proposed framework exhibited potential in enhancing cloud resource utilization and QoS provisioning [1].

B. QoS-Aware Precoding in LEO Satellite Communications

This contributed to the field by presenting a QoS-aware precoding design, specifically tailored for improving the performance of massive Multiple Input Multiple Output (MIMO) Low Earth Orbit (LEO) satellite communications. Their algorithm targeted the enhancement of both user QoS and energy efficiency, addressing the unique challenges of satellite communication systems [2].

C. QoS-Aware Multipath Routing in SDNs

It proposed a QoS-aware dynamic multipath routing scheme in the context of Software-Defined Networks (SDNs). This innovative approach aimed to boost the QoS of high-bandwidth applications by achieving a remarkable 22% improvement in network throughput and a 24% reduction in QoS violations. Their work underscored the importance of dynamic routing for QoS-sensitive applications [3].

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Sonepat, Haryana 131029

SEMESTER EXAMINATIONS NOVEMBER-2024

FACULTY WISE RESULTS ABSTRACT REPORT

Faculty Name : Dr.Mohd Kaleem **Designation : Assistant Professor** **Department : Computer**

Subject Code	Subject Description	Course	Candidates						Pass (%)
			Registered	Absent	Appeared	Passed	Failed	Malpractic	
21MCA104	SOFTWARE ENGINEERING	M.C.A.-Master of Computer Application [1st Semester]	52	0	52	52	0	0	100.00
21MCA154	SOFTWARE ENGINEERING LAB	M.C.A.-Master of Computer Application [1st Semester]	52	0	52	52	0	0	100.00
23CS2005	DATABASE MANAGEMENT SYSTEMS	B.Tech.-Computer Science and Engineering [3rd Semester], B.Tech.-Computer Science and Engineering with specialization in Blockchain and Internet of Things [3rd Semester], B.Tech.-Computer Science and Engineering with specialization in Cyber Security [3rd Semester], B.Tech.-Computer Science and Engineering with Specialization in Data Science and Artificial Intelligence [3rd Semester]	104	18	86	79	7	0	91.86
23CS2111	DATABASE MANAGEMENT SYSTEMS LAB	B.Tech.-Computer Science and Engineering [3rd Semester], B.Tech.-Computer Science and Engineering with specialization in Blockchain and Internet of Things [3rd Semester], B.Tech.-Computer Science and Engineering with specialization in Cyber Security [3rd Semester],	104	18	86	86	0	0	100.00

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Sonepat, Haryana 131029

SEMESTER EXAMINATIONS NOVEMBER-2024

FACULTY WISE RESULTS ABSTRACT REPORT

Faculty Name : Dr.Mohd Kaleem **Designation : Assistant Professor** **Department : Computer**

Subject Code	Subject Description	Course	Candidates						Pass (%)
			Registered	Absent	Appeared	Passed	Failed	Malpractic	
	DATABASE MANAGEMENT SYSTEMS LAB	B.Tech.-Computer Science and Engineering with Specialization in Data Science and Artificial Intelligence [3rd Semester]							

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Sonepat, Haryana 131029

SEMESTER EXAMINATIONS MAY-2025

FACULTY WISE RESULTS ABSTRACT REPORT

Faculty Name : Dr.Mohd Kaleem **Designation : Assistant Professor** **Department : Computer**

Subject Code	Subject Description	Course	Candidates						Pass (%)
			Registered	Absent	Appeared	Passed	Failed	Malpractic	
21CS3004	SOFTWARE ENGINEERING	B.Tech.-Computer Science and Engineering [6th Semester], B.Tech.-Computer Science and Engineering with specialization in Blockchain and Internet of Things [6th Semester], B.Tech.-Computer Science and Engineering with Specialization in Data Science and Artificial Intelligence [6th Semester]	115	8	107	106	1	0	99.07
21CS3118	SOFTWARE ENGINEERING LAB	B.Tech.-Computer Science and Engineering [6th Semester], B.Tech.-Computer Science and Engineering with specialization in Blockchain and Internet of Things [6th Semester], B.Tech.-Computer Science and Engineering with Specialization in Data Science and Artificial Intelligence [6th Semester]	115	7	108	108	0	0	100.00
21CS4114	MAJOR PROJECT	B.Tech.-Computer Science and Engineering with specialization in Blockchain and Internet of Things [8th Semester], B.Tech.-Computer Science and Engineering with	98	0	98	98	0	0	100.00

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Sonepat, Haryana 131029

SEMESTER EXAMINATIONS MAY-2025

FACULTY WISE RESULTS ABSTRACT REPORT

Faculty Name : Dr.Mohd Kaleem **Designation : Assistant Professor** **Department : Computer**

Subject Code	Subject Description	Course	Candidates						Pass (%)
			Registered	Absent	Appeared	Passed	Failed	Malpractic	
	MAJOR PROJECT	specialization in Cloud and Mobile based Application [8th Semester], B.Tech.-Computer Science and Engineering with specialization in Cloud Engineering and DevOps Automation [8th Semester], B.Tech.-Computer Science and Engineering with Specialization in Data Science and Artificial Intelligence [8th Semester]							
23BCA403	SOFTWARE ENGINEERING	B.C.A.-Bachelor of Computer Application [4th Semester]	57	3	54	52	2	0	96.30
23BCA407	LIVE PROJECTS	B.C.A.-Bachelor of Computer Application [4th Semester]	57	2	55	55	0	0	100.00
23SS202	ADVANCED EXCEL SKILLS	B.C.A.-Bachelor of Computer Application [2nd Semester]	65	6	59	59	0	0	100.00

Controller of Examinations

ISSN: 2788-7669 *Journal of Machine and Computing 4(4)(2024)*

Performance Optimization and Link Reliability in Wireless Body Area Networks

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Abstract – Long-lasting connectivity and energy-efficient systems are needed for wireless body area networks (WBANs). In addition to the growing commercialization of WBANs, health monitoring applications demand improved quality of service (QoS). For WBAN performance characteristics to improve, it is essential to develop a dependable and energy-efficient link. We provide a cross-layer routing strategy for improving WBAN quality of service in this study. This method employs a cost function that linearly combines the individual absorption rate functions, node energy ratio, and link dependability. This research investigates how the performance of the network varies depending on the parameter combinations used and the size of the contention window, and we use parametric modelling of the cost function. While the development of the QoS focuses on enhancing the packet delivery success rate and network throughput for applications of WBANs, the suggested algorithm primarily increases network lifetime durability by decreasing the node energy consumption with acceptable throughput. WBAN performance optimization criteria using advanced particle swarm optimization (APSO) are proposed in this research to emphasize increasing energy economy, decreasing end-to-end delay and increasing network throughput in various existing methods. The number of live nodes for the proposed method is higher than those of the PSO-LSMR, M-ATTEMPT and EERP. The value of First Node Died is 6301. The value of residual energy, 34.7 J, is also higher for the proposed method than for the compared state-of-the-art algorithms.

Keywords – Wireless Body Area Networks , Quality of Service, Advanced Particle Swarm Optimization, Optimization.

I. INTRODUCTION

The convergence of smart health and the Internet of Things (IoT) is expected to lead to a surge in the production of biological sensors for health monitoring by various companies. Wireless biological sensors have become crucial tools for remotely monitoring essential physiological signals. Positioned strategically either off, on, or within the human body, these sensors enable predictive health analysis. This technological advancement holds the promise of revolutionizing healthcare by facilitating real-time and non-intrusive monitoring of vital health metrics through the seamless integration of smart health initiatives and IoT capabilities [1].

Various wireless technologies, including IEEE 802.15.6, IEEE 802.15.4, IEEE 802.15.3, and IEEE 802.11 standards, can facilitate communication among wireless biological sensors. However, as the adoption of these technologies increases, wireless body area networks (WBANs) created by integrating these sensors may soon face notable quality of service (QoS) limitations. In places like public libraries, healthcare facilities, retail malls, and sports venues, where multiple WBANs coexist, users might encounter challenges with network performance due to heightened competition for limited network resources.

With the growing quantity of WBAN users, the possibility arises of having numerous WBANs in a small area. In such cases, users may experience network performance issues because of the increased competition for limited network resources in places such as public libraries, health care facilities, retail malls, and sports venues. Network performance is impacted by insufficient resources through reduced throughput, delay, excessive energy use, and packet collision.

Collision occurs when more than two devices are given similar transmission channels at the same time for contention-based channel access. Therefore, in a multiple-WBAN network, a high device density per unit area necessitates collision control mechanisms. The packet flow and collision resolution of WBAN devices are controlled by MAC (medium access control) methods. As a result, the IEEE 802.11 standard CSMA-CA (carrier-sense multiple access with collision avoidance) method is used for collision control instead of the more traditional MAC-DCF (medium access control with distributed

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Certificate of Reviewer

icRtc

This certificate is proudly presented to

Prof./Dr./Mr./Ms. ...Mohd. Kaleem.....

.....SRM Sonipat.....

for his/her contribution as **Reviewer** at the **13th International Conference on Recent Trends in Computing (ICRTC-2025)**, organized by the Department of Computer Science and Engineering, SRM Institute of Science and Technology, Delhi - NCR Campus, Modinagar, Ghaziabad, U.P., India, in association with Springer held on 4th - 5th July, 2025.

Dr. Avneesh Vashistha
HoD & Organizing Chair

Dr. Rajendra Prasad Mahapatra
Dean & Conference Chair

ABES Engineering College
College Code 032
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Technically Co-Sponsored by IEEE UP SECTION (INDIA)

CERTIFICATE

OF APPRECIATION

Mr. Mohd Kaleem

Assistant Professor Department Of Computer Science And Engineering, SRM University, Sonepat, Haryana

In recognition of his contribution as **Reviewer** in

1st International Conference on **Computing, Sciences and Communications (ICCSC-2024)**

to be held on 24th & 25th October, 2024 organized by Department of Computer Science

ABES Engineering College, Ghaziabad, UP, India.

Prof. (Dr.) Pankaj Kumar Snarma
Convener & General Chair
Head - CS, ABESEC

Prof. (Dr.) Devendra Kumar Sharma
Patron & General Chair
Director, ABESEC

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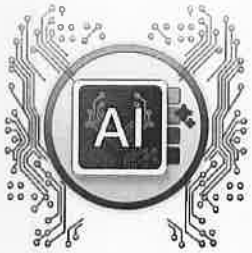

Dr Mohd Kaleem

has successfully completed

Introduction to generative AI - Exploring the basics

August 7, 2025

Satya Narayana Nadella

SRM UNIVERSITY DELHI-NCR, SONEPAT, HARYANA
FACULTY APPRAISAL FORM

Appraisal period: 1st July 2024 to 30th June 2025

GUIDELINES:

- The information provided should be accurate and clear. Additional information, if any, worth mentioning may be provided in a separate sheet.
- The Faculty must read the **Performance Appraisal Form** before filling it.

SECTION –A: PERSONAL INFORMATION

Name	**Dr Pratibha Gaur**
Employee ID	**41180014**
Date of Birth	**13/08/1984**
Designation	**Associate Professor**
Department	**Biotechnology & Microbiology**
Date of Joining (SRMUH)	
Experience	Total Experience…11 Years…11 Months SRMUH……1 Years…11 Months
Salary	Pay Scale : AGP : Gross Salary:

ACADEMIC PERFORMANCE INDICATORS (APIs)

CATEGORY-I: TEACHING LEARNING AND EVALUATION ACTIVITIES (50)

A-Teaching-Learning (20)

Sl. No.	Course Name & Code	Credits	Course File	Lab Manuals (if applicable)	Pedagogy	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating

1	Applied Microbiology-Lab 21 MSM355	2	Yes	Yes	PPT, Discussion, Blackboard, Practical demo	4		
2	Microbial Technology 21MSB105	3	Yes	NA	Blackboard, ppt, Discussion	4		
3	Virology 21MPE203	3	Yes	NA	Flip class, Discussion, ppt	4		
4	Molecular Biology & Genetics 21MSB105	3	Yes	NA	Blackboard, ppt, Discussion	4		
5	Animal Biotechnology 21MPE101	3	Yes	NA	Blackboard, ppt, Discussion	4		
6	Molecular Biology Lab 21MBM115	3	Yes	Yes	Blackboard, ppt, Discussion	4		
7	Project work 21MSM452	2	Yes	Yes	PPT, Discussion, Blackboard, Practical demo	4		
8	Environmental Microbiology 24MSM20	3	Yes	NA	Blackboard, ppt, Discussion	4		
9	Microbial Technology Lab 24MSM25	2	Yes	NA	PPT, Discussion, Blackboard, Practical demo			
					Average			

(NOTE: Full credits 4 Marks and Half credits 2 Marks)

B-Assessment & Evaluation (15)

Sl. No.	Evaluation Parameters	Course Name	Credits	Level of Questions	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating

1	Assignments	All Subjects		Moderate	3		
2	Quiz/Surprise Tests/Presentation	ALL		High/Moderate	3		
3	Projects	M.Sc. Disscrtatio n		Moderate	3		
4	MSTs	All		High/Moderate/ Easy	3		
5	End Semester Examination	All		High/Moderate/ Easy	3		
				Average			

(NOTE: Each point carries 3 marks)

C-Academic Results (Learning Outcome) (5)

Sl. No.	Courses	Credits	Continuous Evaluation Marks	End Sem Marks	Over all Pass %	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	Applied Microbiology-Lab 21 MSM355	2	Yes	40	>90	10		
2	Microbial Technology 21MSB105	3	Yes	60	>90	10		
3	Virology 21MPE203	3	Yes	60	>90	10		
4	Molecular Biology & Genetics 21MSB105	3	Yes	60	>90	10		
5	Animal Biotechnology 21MPE101	3	Yes	60	>90	10		
6	Molecular Biology Lab 21MBM115	3	Yes	40	>90	10		
7	Project work 21MSM452	2	Yes	40	>90	10		
8	Environmental Microbiology 24MSM20	3	Yes	40	>90	10		
9	Microbial Technology Lab 24MSM25	2	Yes	60	>90	10		
				40	>90	10		

					Average			

(NOTE: If the pass % is above 90, it is 10 points, else if the average of pass% will be taken with reference to last year's result)

D-New /Additional Course, Innovative Pedagogy, Value Added Topics & Remedial Classes: (5)

Sl. No.	Nature of Additional Teaching related Work	Class	No. of Lectures taken	Necessity/Reason	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1	New/Additional Course	Applied Microbiology Practical and Microbial Technology	7	Informed, Experiments	1.25		
2	Innovative Pedagogy	Technology integration	2	Microbiology	1.25		
3	Value Added Topics	Coronavirus in virology	1	Current Pandemic	1.25		
4	Remedial Classes						
				Average			

(NOTE: Each point 1.25 marks)

E- Student's Feedback (5)

Sl. No.	Course Name & Code	Credits	Students Feedback	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
1	Applied Microbiology-Lab 21 MSM355	2	7	7			
2	Microbial Technology 21MSB105	3	7	7			
3	Virology 21MPE203	3	7	7			
4	Molecular Biology & Genetics 21MSB105	3	7	7			
5	Animal Biotechnology 21MPE101	3	7	7			
6	Molecular Biology Lab 21MBM115	3	7	7			
7	Project work 21MSM452	2					
8	Environmental Microbiology	3	7	7			

9	24MSM20 Microbial Technology Lab 24MSM25	2	7	7			
			Average				

(NOTE: Feedback Scale: 0-7. Feedback students having more than 75% attendance will be considered)

CATEGORY-II: RESEARCH, TRAINING & CONSULTANCY ACTIVITIES (25)

F- Publications (15/18)

Sl. No.	Details of Paper/Book/Book Chapter/Review	National/International	INDEXED	Impact Factor	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Book Chapter:- Diksha Dahiya, Sheetal Kundu, Ishita Goel, Yogita Khosla, **Pratibha Gaur.** Gut Ecology and Metabolic Health: Understanding the microbiome – Metabolic Syndrome Connections in Gut Health and Metabolic Syndrome by springer nature. doi.org/10.1007/978-981-96-6246-3_1 2025	International			18		
2.	Suresh Kumar, Riya Mukherjee, Chung-Ming Chang, **Pratibha Gaur**, Ramendra Pati Pandey. Unveiling roles of beneficial gut bacteria and optimal diets for health: A comprehensive review, Accepted in ***Frontiers in Microbiology***, Feb 2025 doi:10.20944/preprints202410.0964.v1	International		4.00	18		
3.	Book Chapter:- Gayatri Mann,	International Springer			18		

	Anglina, **Pratibha Gaur** : Ethical Consideration Regarding Patient privacy and Data Security. 2025; https://books.google.co.in/books/about/Advances_in_Cancer_Detection_Prediction.html?id=jvZk0QEACAAJ&redir_esc=y	(Accepted)					
4.	Ilan Zaffran*, Yara Zoabi*, **Pratibha Gaur**, Fidan Alekberli Rahimli, E Tiligada, V Yutkin, Francesca Levi Schaffer. Eosinophil but not mast cells excerts anti-tumorigenic activity, without being predictive markers of the long-term response to Bacillus-Calmette- Guerin (BCG) therapy in patients with bladder carcinoma (**Inflamm Res.**) Apr 2025 doi: 10.1007/s00011-025-02028-1	International		5.73	18		
				Average			

(NOTE: For E&T & Science 15 Marks and other Departments 18 Marks)

G- Projects (5/7)

Sl. No.	Title of the Project	Details of PI & Co-PI	Funding Organization	Amount	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Identification and Purification of Bio-Active Compounds from Indian Herbal Extracts to Develop an Effective Anti-Fungal Formulation	PI		Submitted			
2.	Investigation of						

	Immunomodulatory Markers Regulated In Pollution Induced Allergies	PI		Submitted			
				Average			

(NOTE: For E&T & Science 5 Marks and other Departments 7 Marks)

H- Patent (applicable only for E&T & Science) (5)

Sl. No.	Title of Patent	Filing/Published details	Place	Self-Appraisal Rating	Reporting Authority Rating	Appraisal Committee Rating	Final Rating
			Average				

(NOTE: Applied 2 Marks and published patent 5 marks)

CATEGORY-III: ACADEMIC-ADMINISTRATIVE ACTIVITIES (20)

I-Academic Administration Responsibility (20)

Sl. No.	Academic Administration related Activity	Nature of Responsibility	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Time Table Coordinator	Preparing the Faculty timetable	2		
2.	Animal House Member secretary	Documentation and Organizing Training and meetings	2		
3.	IBSC Incharge	Registration and documentation	2		
4.	NAAC	For Lab Maintenance & Update	2		
5.	Lab In charge Parasitology (C4D)	Core committee member (Criteria 3) Documentation	2		
6.	Internal academic audit team for Btech 1st year-Even Sem 2024	Moderator	2		
7.	End Term Exam paper moderator Even Sem 2024				
		Average			

(NOTE: Each activity 2 marks)

CATEGORY-IV: PROFESSIONAL DEVELOPMENT ACTIVITY (3)

J. Workshop/FDPs/Conference Attended as participant or Resource person (3)

Sl. No.	Workshop/FDPs/Conference Attended	Period (From…to…)	National/International	Published in Proceedings (Y/N)	Self-Appraisal Rating	Appraisal Committee Rating	Final Rating
1.	Climate change &		National		6		

	its impact on Agriculture	5th-11th Aug 2024					
2	Engineering application of Machine Learning	15th-19th July 2024	SRMUH National		5		
3	Indian Cultural heritage and knowledge systems	7th-13th July 2024	National		6		
4	Generative AI Deep drive: from fundamentals to advanced techniques	4th -8th Aug 2025	SRMUH		5		
5	One week : semiconductor technology on chip	28th July – 1st august 2025	National		5		
6	Women leadership program	11th april – 16th may 2025	SRMUH		32		
7	Engineering application of machine learning	15th July – 19th july 2024	National		5		
8	EMBO Laboratory Leadership Course	11th November 2024	National		7		
9	Food safety regulation system: Ensuring safe food	31st Aug 2024	SRMUH		1		
10	World Immunology Day Celebration	30th April 2025	International		1		
11	International conference on futuristic demands and emerging technologies in environment and agri- food science for sustainable solutions	21st Feb 2025	National		2		
12	The intersection of sustainability one health and agroeconomics	21st March 2025			1		

II	Research, training & consultancy activities	25	25		
III	Academic administration activities	20	20		
IV	Professional development activity	3	3		
V	Professional membership	2	2		
	Average	100	100		

Recommendation of Appraisal Committee

Date: (Signature of Chairman of the Committee)

(Vice Chancellor)