



Faculty Details proforma for DU Web-site

Title	Dr.	First Name	Preeti	Last Name	Karwal (Formerly, Sachdeva)	Photograph
Designation		Associate Professor, Department of Biochemistry				
Address		Deshbandhu College, Kalkaji, New Delhi-110019				
Phone No Office		01126439565				
Residence		01146591789				
Mobile		9711699469				
Email		pkarwal@db.du.ac.in ; preetisach22@gmail.com				
Web-Page						
Educational Qualifications						
Degree		Institution			Year	
Ph.D. Biomedical sciences		Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi. Institute of Genomics and Integrative Biology, CSIR.			2009	
M.Phil.						
PG M.Sc. Biomedical sciences		Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi.			2003	
UG B.Sc. (H) Biochemistry		Daulat Ram College, University of Delhi.			2000	
Any other qualification B.Ed.		G.G.S.I.P University			2001	
Career Profile						
Associate Professor (w.e.f July 21, 2020 till present)						
Assistant Professor (December 1, 2008 – July 20, 2020)						
Administrative Assignments						
<p>Curriculum Development:</p> <p>Active involvement in the development of syllabus for FYUP and CBCS for Bachelors in Biochemistry. One of the members of three-member committee for designing theory and practical syllabus for Cell Biology and Concepts of Genetics.</p> <p>Other administrative assignments:</p> <p>Serving as Teacher-in-charge, Department of Biochemistry w.e.f January 6, 2020.</p> <p>Executive member, DBT Star College Scheme Implementation Committee and DBTi4 Central</p>						

Instrumentation Facility, 2019 – Present.

Member, Institutional Biosafety Committee at Deshbandhu College, University of Delhi, 2020-2023.

Member, 'Delhi Effective Education and Pedagogy Cluster (DEEPC) Team, Delhi Science & Technology Cluster' managed by Delhi Research Implementation and Innovation (DRIIV; driiv.iitd.ac.in) and supported by the Office of the Principal Scientific Adviser to the Government of India.

Member, COVID Task Force, Deshbandhu College, University of Delhi, March 2021-Present.

Served as Teacher-in-charge, Deptt. of Biochemistry in below mentioned periods: 1.4.10 - 25.11.10 and 1.4.13 - 6.11.14

Core Member, DBT Advisory committee, DBT Star College scheme, Deshbandhu College, University of Delhi, 2019-2020.

Member, Screening Committee for Recruitment of Assistant professors, 2014 and 2020 at Department of Biochemistry, Deshbandhu College, University of Delhi.

Admission-in-charge for the Deptt. of Biochemistry for academic session 2010, 2013, 2014, 2017, 2018, 2020.

Member, Admission workload planning committee, 2010, 2013, 2014, 2020.

Member, Annual day prize distribution committee, 2012 and 2013.

Member, Extension Lecture Committee, 2010-11, 2017-18 and 2018.

Member, Purchase committee, 2018.

Member, Student election committee, 2012.

Member, Prospectus committee, 2009 and 2010.

Member, Organising Committee, Annual departmental fest, BIOSPARK, 2011, 2012, 2013, 2014, 2016, 2017, 2018

Member, Refreshment Committee, Annual college cultural fest, Sabrang, 2017.

Areas of Interest / Specialization

Microbial Pathogenesis
Molecular Epigenetics
Molecular Cell Biology
Medical Genetics

Subjects Taught:

Name of the Course	Year/Semester	Name of the Subject	Year
B.Sc. (H)Biochemistry CBCS Mode	VI	Advanced cell Biology	2019-2020
B.Sc. (H)Biochemistry CBCS Mode	V	Concepts in Genetics	2017-2018
B.Sc. (H)Biochemistry CBCS Mode	III	Metabolism of Carbohydrates and Fats	2017-2018
FYUP for Bachelors in Biochemistry	V	Genetic Engineering and biotechnology	2014-2015
FYUP for Bachelors in Biochemistry	III	Gene Organisation, Replication and Repair	2013-2014
FYUP for Bachelors in Biochemistry	II	Cell Biology	2013-2014
B.Sc. (H)Biochemistry Semester Mode	VI	Genetics and Genomics- II	2012-2013, 2013-2014
-do-	V	Genetics and Genomics-I	2012, 2013
-do-	IV	Cell Biology-II	2012-2013, 2013-2014
-do-	III	Cell Biology-I	2011, 2012, 2013
-do-	I	Biomolecules	2010
B.Sc. (H)Biochemistry Annual Mode	III Yr	Molecular Biology-I	2008-2009, 2009-2010
-do-	I Yr	Chemistry and Biology of Biologically Important Molecules	2008-2009, 2009-2010

Research Guidance:

List against each head (If applicable)

- *Supervision of awarded Doctoral Thesis*
- *Supervision of Doctoral Thesis, under progress*
- *Supervision of awarded M.Phil dissertations*
- *Supervision of M.Phil dissertations, under progress*

Short-term Undergrad Student Research Project Supervision:

- Isolation, identification and characterization of contaminating microbes in regular bacterial culturing in lab conditions (10th March, 2021-5th April, 2021).
- To characterize peach and orange eye coloured mutant *Drosophila melanogaster* strains observed in wild type and white eyed fly lab stocks (1st October, 2018 – 28th February, 2019).
- Building a compendium for literature-based assessment of the spectrum and status of potential natural product-based anti-Systemic Lupus erythematosus (SLE) therapy (1st January, 2020 – 10th February, 2020).
- Bioinformatic analysis of protein sequences and homology modelling for structure prediction (In progress).
- To analyse the genetic basis of difference in eye colour via comparison of eye pigments from peach

and orange eye coloured mutant with wild type *Drosophila melanogaster* strains (In progress).

Publications Profile

List against each head (If applicable) (as illustrated with examples)

- Books/Monographs (Authored/Edited):
- Research papers published in Refereed/Peer Reviewed Journals

Research papers published in International Refereed/Peer Reviewed Journals

- Misra R, Menon D, Arora G, Virmani R, Gaur M, Naz S, Jaisinghani N, Bhaduri A, Bothra A, Maji A, Singhal A, **Karwal P**, Hentschker C, Becher D, Rao V, Nandicoori VK, Gandotra S, Singh Y. Tuning the Mycobacterium tuberculosis alternative sigma factor SigF through the multidomain regulator Rv1364c and osmosensory kinase, protein kinase D. *J Bacteriol.* 2019 Jan 14. pii: JB.00725-18. doi: 10.1128/JB.00725-18. [Epub ahead of print] PubMed PMID: 30642988.
- **Karwal P**, Vats ID, Sinha N, Singhal A, Sehgal T, Kumari P. Therapeutic applications of Peptides against Zika Virus: A Review. *Curr Med Chem.* 2019 Jan 10. doi: 10.2174/0929867326666190111115132. [Epub ahead of print] PubMed PMID:30636575.
- **Karwal P**. (2016) Advances and Future Prospects in Improving Intravesical BCG Immunotherapy of Non-muscle Invasive Bladder Cancer. *IJBBS* 2(1); 40-47.
- **Sachdeva P**, Misra R, Tyagi AK, Singh Y. (2010) The sigma factors of Mycobacterium tuberculosis: regulation of the regulators. *FEBS J.* 277(3): 605-26.
- **Sachdeva P**, Narayan A, Misra R, Brahmachari V, Singh Y. (2008) Loss of kinase activity in Mycobacterium tuberculosis multidomain protein Rv1364c. *FEBS J.* 275: 6295-308.
- Narayan A, **Sachdeva P**, Sharma K, Saini AK, Tyagi AK, Singh Y (2007). Serine threonine protein kinases of mycobacterial genus: phylogeny to function. *Physiol Genomics.* 29: 66-75.
 - Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals
 - Research papers published in Refereed/Peer Reviewed Conferences

Abstracts Presented in Conferences:

Mentored an innovative idea titled "A Machine Learning Based Approach for Designing Drug Molecules Capable of Penetration Across Blood Brain Barrier" presented by Muskan Goyal, Shubh Sharma and Saurav Kumar at MindSpar 3.0 - "Adding New Dimensions", an ideathon on sustainable development organized by Department of Biochemistry, Sri Venkateswara College, University of Delhi in collaboration with BSC BioNEST Bio-incubator, RCB on March 21, 2021.

Akhil Kumar, Neha Gupta, Ashish Gupta, Vanshika Lumb and **Preeti Karwal*** "Building a compendium for literature-based assessment of the spectrum and status of potential natural product-based anti-Systemic Lupus erythematosus (SLE) therapy." at International Conference on Natural Products and Human Health held at University of Delhi Conference Centre organized by Department of Zoology, Deshbandhu College, February, 27-29, 2020.

Kartik Majila, Rachna Behl, Elbin Alosly, Ashish Gupta, Akhil Kumar, Neha Gupta, Savinitha Prakash, **Preeti Karwal***, & Vinod Scaria* "An approach towards precision diagnosis of Maturity Onset Diabetes of Young." at International Conference on Frontiers in Biochemistry and Biotechnology: Strategies to

combat Human Diseases, organized by Deptt. Of Biochemistry, Shivaji college and South Campus, DU, February, 12-13, 2020.

Kartik Majila, Rachna Behl, Elbin Alosly, Ashish Gupta, Akhil Kumar, Neha Gupta, **Preeti Karwal*** & Vinod Scaria* "Improved data curation strategies of genetic variants for personalized diagnosis of monogenic disorders." at International Conference on Advances in Biosciences and Biotechnology, 2020 held at JIIT, NOIDA, Jan 30 – Feb 1, 2020.

Majila K, Behl R, Lumb V and **Karwal P***. "To characterize lighter shades of eye coloured mutant *Drosophila melanogaster* strains observed in wild type and white eyed fly lab stocks." at National Conference on Insect Plant Biology in 21 st century held at Deshbandhu College, November, 4-5, 2019.

Karwal P. "Recent approaches in using transgenerational epigenetic effects as molecular indicators of exposure to environmental pollutants" at Second National Symposium on environment: Greener Future and Awareness held at Deshbandhu College, March 19, 2016.

Misra R, **Sachdeva P** and Singh Y. "A pathogen specific domain fusion event in stress dependent regulatory pathway of regulatory pathway." in Keystone Symposium on Mycobacteria: Back to Basics, Vancouver, Canada, January 2011.

Arora G, Narayan A, **Sachdeva P**, Basu M, Singh Y, "Modulation of Adenylate Kinase Activity of ABC transporter (Rv 1747) by Protein Kinase F in Mycobacterium tuberculosis." at Keystone Symposium on Tuberculosis: Biology, Pathology and Therapy held at Colorado, US, January 2009.

Sachdeva P, Narayan A, Misra R, Brahmachari V and Singh Y. "Protein Phosphorylation and Stress-Dependent Sigma Factor Regulation in *Mycobacterium tuberculosis*" in HUGO's 13th international meeting on the Human Genome to be held at Hyderabad, India in September 2008.

Narayan A, **Sachdeva P**, Tyagi AK and Singh Y. "Serine/threonine protein kinase F and regulation of its substrate" in the 76th Meeting of Society of Biological Chemists of India (SBCI) held at Tirupati, India, November 2007.

Narayan A, **Sachdeva P** and Singh Y. "Serine/threonine protein kinase repertoire and their role in survival of *Mycobacterium tuberculosis*" in 9th International EMBL PhD Student Symposium - Patterns in Biology: Organization of Life in Space and Time held at EMBL Heidelberg, Germany, October 2007.

Narayan A, **Sachdeva P** and Singh Y. "Serine/threonine kinases of *Mycobacterium tuberculosis* and their cellular targets" at International Symposium on New Frontiers in Tuberculosis Research held in New Delhi, India, December 2006.

- *Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences*
- *Other publications (Edited works, Book reviews, Festschrift volumes, etc.)*

Conference Organization/ Presentations (in the last three years)

List against each head(If applicable)

- *Organization of a Conference:*

- Served as a **Convenor** for Four day "Online Hands-on Workshop on Research Methodology" as an open outreach program for undergrad and postgrad students jointly organised by the Departments of Biochemistry, Botany and Zoology, Deshbandhu College held from April 1 - April

5, 2021.

- Served as a **Convener** for International Webinar on “Hands on Training in Scientific Writing” organized by Department of Biochemistry, Deshbandhu College, University of Delhi, held on November 12, 2020.
- Served as a **Convener** for International Webinar on “Understanding Pathophysiology and Therapeutic Strategies for Neurological Disorders” organized by Department of Biochemistry, Deshbandhu College, University of Delhi, held on October 29, 2020.
- Served as a **Convener** for International Webinar on “Non-invasive Cancer Diagnosis and Prognosis” organized by Department of Biochemistry, Deshbandhu College, University of Delhi, held on October 17, 2020.
- Served as a **Convener** for two days Webinar on “Understanding Human Health and Wellness in New Perspectives” organized by Department of Biochemistry, Deshbandhu College, University of Delhi, held on May, 20-21, 2020.
- Served as a Member, Organizing committee in International Conference on “Natural Products and Human Health” organized by Department of Zoology, Deshbandhu College, held on February, 27-29, 2020.
- Served as a Member, Advisory Board and Organizing committee in National Conference on “Pharmacovigilance: Advancements in the safe drug development” organized by Department of Biochemistry, Deshbandhu College, January 16-17, 2020.
- Served as a Member, Organizing committee in National Conference on “Insect-Plant Biology in 21st Century” organized by Department of Zoology, Deshbandhu College, November 4-5, 2019.
- Served as a Member, Organizing committee and Resource person in the DST-INSPIRE Internship programme-2019” at Deshbandhu College, December 17-21, 2019.
- Served as a Member, Organizing committee and Resource person in the DST-INSPIRE Internship programme-2013” at Deshbandhu College, December 16-20, 2013.
- Served as a Member, Organizing committee and Resource person in National Workshop on “Recent Trends in Biochemistry and Biotechnology” organized by Department of Biochemistry, Deshbandhu College, 21-22 April, 2016.
- Served as a Member, Organizing committee, “Workshop on applied Genomics and Proteomics” organized by Department of Zoology at Deshbandhu College, 12-14 March, 2014.
- Served as a Member, Organizing committee, National Symposium on Current Trends in Genomics & Proteomics organized by Department of Biochemistry at Deshbandhu College, Feb 4-5, 2010.
- Served as a Member, Organizing committee, National Symposium on Recent Advances in Immunology organized by Department of Biochemistry at Deshbandhu College, Jan 30, 2009.
- Resource Person in the ILL and CPURT workshop for Biology Laboratory Course (Course Code LS 306) of B.Sc. Programme III year at Acharya Narendra Dev College from Oct 21-24, 2008.
- Core Member, committee for organising regular scientific talks by eminent scientists and academicians as a part of biannual academic cum cultural departmental fest, Biospark w.e.f 2011 – Present.

Participation as Paper/Poster Presenter:

- Akhil Kumar, Neha Gupta, Ashish Gupta, Vanshika Lumb and **Preeti Karwal*** “Building a compendium for literature-based assessment of the spectrum and status of potential natural

product-based anti-Systemic Lupus erythematosus (SLE) therapy.” at International Conference on Natural Products and Human Health held at University of Delhi Conference Centre organized by Department of Zoology, Deshbandhu College, February, 27-29, 2020.

- **Karwal P.** “Recent approaches in using transgenerational epigenetic effects as molecular indicators of exposure to environmental pollutants” at Second National Symposium on environment: Greener Future and Awareness held at Deshbandhu College, March 19, 2016.
- **Karwal P, Mishra C, Mohanan G.** “Prospects of using nanoparticles in intravesical BCG immunotherapy of bladder cancer” in Indo-Portugese workshop on Emerging trends of nanotechnology in Chemistry and Biology, held at University of Delhi, February 12-13, 2016.
- **Narayan A, Sachdeva P and Singh Y.** “Serine/threonine kinases of *Mycobacterium tuberculosis* and their cellular targets” at International Symposium on New Frontiers in Tuberculosis Research held in New Delhi, India, December 2006.

Symposiums/ Workshops Attended:

- Participated in Online Two-Week FDP on “Research Methodology: A Learning Journey from Bivariate Techniques to Multivariate Techniques” under MHRD Sponsored PMMMNMTT scheme organized by Teaching Learning Centre, Ramanujan College, University of Delhi from Dec 10-23, 2020.
- Participated in Seven Day Faculty Development Program on “Development and Delivery of Moocs and E-content” being jointly organized by the Central University of Haryana and Deshbandhu College, University of Delhi under PMMMNMTT scheme from June 26 -July 1, 2020.
- Participated in Five day “National Workshop on Computation for Biomedicine and Healthcare” at IIIT -Delhi campus from December 10-14, 2018.
- Participated in MHRD (PMMMNMTT) Sponsored Seven-day workshop cum Faculty Development Programme on "ICT INTEGRATED RESEARCH IN MATHEMATICAL SCIENCES" organized by Teaching Learning Centre, Ramanujan college, September 24-30, 2018.
- Participated in Seven-Day National Workshop cum Faculty Development Program on "Human Rights and Environment", organised by Centre for Human Rights Studies, Ramanujan College, March 14 -20, 2018.
- Participated in National workshop on “Technical Terminology in Science Teaching” organized by Commission for Scientific and Technical Terminology, MHRD at Deshbandhu College, October 26-27, 2017.
- Participated in "Bioinformatics Training Programme for the College Teachers" held at DBTBTISNET Bioinformatics Centre, Sri Venkateswara College, July 27-28,2017.
- Participated in Hands on Training in Next generation sequencing organized by CIC-Centre for science education and communication, DU, September 30-October 1, 2016.
- Participated and obtained grade ‘A’ in 11th three-week Refresher course in “Human Rights and Social Inclusion (Interdisciplinary)” at University Grants Commission-Human Resource Development Centre, Jamia millia Islamia, New delhi, July 30 – August 20, 2015.
- Participated and obtained grade ‘A’ in 11th four-week Orientation programme at University Grants Commission-Human Resource Development Centre, Jamia millia Islamia, New delhi, April 6-May 2, 2015.
- Participated in “Hands-on workshop on Immunology- Immunis” held in Sri Venkateswara College from May 14-18, 2012.
- Participated in “Hands-on workshop on Drosophila genetics” held in Department of Zoology, North campus, January 2012.

- Participated in “Bioinformatics Workshop for Life science faculty” held at Bioinformatics Center, Sri Venkateswara College, July 27-30, 2011.
- Participated in ICT Workshop for Capacity Building of Delhi University faculty organized by Institute of Lifelong Learning, DU, Feb 8-13, 2010.
- National Symposium “CATENANES”, Molecular Cell Biology at Shivaji College from Nov. 24 – 25, 2009.
- International Symposium on “New Frontiers in Tuberculosis Research” at ICGEB, New Delhi from Dec. 4 – 6, 2006.
- International Symposium on “Emerging Trends in Tuberculosis” at ICGEB, New Delhi from Nov. 15 – 17, 2004.
- 4th Annual Symposium on “Frontiers in Biomedical Research” at ACBR, University of Delhi from April 13 – 15, 2003.

Research Projects (Major Grants/Research Collaboration)

Awards and Distinctions

Best Oral Presentation award in International Conference on Natural Products and Human Health held at University of Delhi Conference Centre, February, 27-29, 2020.

Best Poster Award in 76th annual meeting of Society of Biological Chemists of India (SBCI) held at Tirupati, India in November 2007.

Qualified **CSIR-NET-JRF twice** (June, 2002 and December, 2002).

Included in **top 20% students** at all India level in **CSIR-NET-JRF exam twice** (June, 2002 and December, 2002).

Awarded “**Catch Them Young**” Fellowship, CSIR throughout M.Sc. program (2001-2003).

Stood as **University topper** (all semesters) in M.Sc. program (2001-2003).

Awarded “**Major S. P. Dutta Award**” for excellent academic record in M.Sc. program (2001-2003)

Association With Professional Bodies

- *Editing*
- 2. *Reviewing*
- 3. *Advisory*
- 4. *Committees and Boards*
- 5. *Memberships*
- 6. *Office Bearer*

Other Activities
Editor, Annual departmental magazine, Biospark 2017 and 2018. Member, Editorial Board, Annual departmental magazine, Biospark 2016.

Preeti Karwal

Signature of Faculty Member

You are also requested to give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.