




INSTITUTE OF HOME ECONOMICS
UNIVERSITY OF DELHI



Name	Dr Savita Bansal	Photograph
Designation	Assistant Professor (Biochemistry)	
E-mail	Savita.bansal@ihe.du.ac.in , bansalsavita_1916@yahoo.com	
Educational Qualifications: <ul style="list-style-type: none">• MSc Biochemistry (2008), Department of Biochemistry, Jamia Millia Islamia University, New Delhi• Ph.D Medical Biochemistry (2015), Department of Biochemistry, University College of Medical Sciences, University Of Delhi		
Teaching experience: 7 Years and 3 Months		
Subjects/Papers Taught <p>BSc (H) Biochemistry, Semester V –Gene Expression and Regulation BSc (H) Biochemistry, Semester V – Nutritional Biochemistry BSc (H) Biochemistry, Semester V – Advanced Cell Biology BSc (H) Biochemistry, Semester IV – Gene Organisation, Replication and Repair BSc (H) Biochemistry, Semester I – Molecules of Life BSc (H) Biochemistry, Semester I – Cell Biology BSc (H) Biochemistry, Semester II – Proteins BSc (H) Food Technology, Semester I – Biomolecules BSc (H) Food Technology, Semester II – Techniques in Biochemistry BSc (H) Microbiology, Semester I – Biomolecules BSc (H) Microbiology, Semester II – Proteins and Enzymes BSc (H) Microbiology, Semester III –Biochemical Application in Forensic Sciences</p> <p>BSc (P) Home Science, Semester V – Nutritional Biochemistry BSc (H) Home Science, Semester V – Nutritional Biochemistry</p>		
Awards received <ul style="list-style-type: none">• Awarded UGC Post Doctoral Fellowship for woman [Ref No.F15-1/2015-17/pdfwm-2015-17-DEL-38083 (SA-11), Year 2015-2016]• CSIR-JRF-NET Qualified (Ref No:20-6/2008(ii) EU-IV, Dec.2008)• 1st position in BSc (2002-2005).		
Research Interest/Specialization <p>Association of Advanced Glycation end products (AGEs) in development and progression of type 2 diabetes mellitus (T2DM), polymorphism of receptor for AGEs in occurrence of T2DM ; Endothelial cell</p>		

dysfunction, paraoxonase activity, Inflammation, oxidative stress and cardiovascular complications; preventive role of resveratrol and curcumin in AGEs-mediated effects; NAFLD: causes and consequences

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Google Scholar ID

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

Citations: 544

h-Index: 12

i10-Index: 12

Research Projects

Title	Funding agency/organization	Duration of Project

Research papers since 2010 (APA format)

1. Meenakshi Vachher, **Savita Bansal**, Bhupender Kumar, Sandeep Yadav and Archana Burman. Deciphering the role of aberrant DNA methylation in NAFLD and NASH (8, e11119, 2022, **Heliyon, Cell Press**) ISSN 2405-8440 Online, **IF- 3.77**
2. Meenakshi Vachher, **Savita Bansal**, Bhupender Kumar, Sandeep Yadav, Taruna Arora, Nalini Moza Wali and Archana Burman. Contribution of organokines in the development of NAFLD/NASH associated hepatocellular carcinoma. (Volume 123, pages 1-32, **July 2022 Journal of Cellular Biochemistry**) ISSN 1097-4644, <https://doi.org/10.1002/jcb.30252>, **IF- 4.48**
3. Zafar Iqbal Bhat*, Bhupender Kumar*, **Savita Bansal**, Afreen Naseem, Raj Ranjan Tiwari, G.D Sharma and M. Moshahid Alam Rizvi. Association of PARK2 promoter polymorphisms and methylation with colorectal cancer in North Indian population. (Volume 682, Pages 25–32, **January 2019, GENE**) ISSN **0378-1119 IF 3.91**
4. Taruna Kumari, Meenakshi Vachher, **Savita Bansal**, Rameshwar NK Bamezai and Bhupender Kumar. Meta-analysis of mitochondrial T16189C polymorphism for cancer and Type 2 diabetes risk. (Volume 482, Pages 136-143, **July 2018, Clinica Chimica Acta**) ISSN 0009-8981 **Print IF-6.3**.
5. Bhupender Kumar*, Zafar Iqbal Bhat*, **Savita Bansal**, Sunil Saini, Afreen Naseem, Khushnumawahabi, Archana Burman, Geeta Trilok-Kumar, Sundeep Singh Saluja and M. Moshahid Alam Rizvi. Association of mitochondrial copy number variation and T16189C polymorphism with colorectal cancer in North Indian population. (Volume: 39 issue: 11, **November 2017, Tumor Biology**) ISSN: 1010-4283 (Print) **IF-3.65**
6. Diwesh Chawla, **Savita Bansal**, Basu Dev Banerjee, Sri Venkata Madhu, Om Prakash Kalra, Ashok Kumar Tripathi. Role of advanced glycation end product (AGE)-induced receptor (RAGE) expression in diabetic vascular complications. (Volume **95**, Pages **1–6**, **2014, Microvascular Research**). ISSN: **00262862, IF-3.75**
7. Ashok K. Tripathi, Diwesh Chawla, **Savita Bansal**, Basu D. Banerjee, S. V. Madhu. Association

of RAGE gene polymorphism with vascular complications in Indian type 2 diabetes mellitus patients. (Volume 103, Pages 474-481, 2014, **Diabetes Research and Clinical Practice**). ISSN: 0168-8227, IF-8.1

8. **Savita Bansal**, Diwesh Chawla, Basu Dev Banerjee, Sri Venkata Madhu, Ashok Kumar Tripathi. Association of RAGE gene polymorphism with circulating AGEs level and paraoxonase activity in relation to macro-vascular complications in Indian type 2 diabetes mellitus patients. (Volume 526, pages 325–330, 2013, **Gene**). ISSN 0378-1119, IF-3.91
9. **Savita Bansal**, Diwesh Chawla, Manushi Siddarth, Basu D. Banerjee, S. V. Madhu, Ashok K. Tripathi. A study on serum advanced glycation end products and its association with oxidative stress and paraoxonase activity in type 2 diabetic patients with vascular complications. (Volume 46, Pages 109-114, 2013, **Clinical Biochemistry**). ISSN: 0009-9120, IF-3.62
10. **Savita Bansal**, Manushi Siddarth, Diwesh Chawla, Basu D. Banerjee, S. V. Madhu, Ashok K. Tripathi. Advanced glycation end products enhance reactive oxygen and nitrogen species generation in neutrophils *in vitro*. (Volume 361, Pages 289-296, 2012, **Mol Cell Biochem**) ISSN: 0300-8177, IF-3.84
11. Manushi Siddarth, Sudip K. Datta, **Savita Bansal**, Mohammad Mustafa, Basu D. Banerjee, Om P. Kalra, and Ashok K. Tripathi. Study on Organochlorine Pesticide Levels in Chronic Kidney Disease Patients: Association with Estimated Glomerular Filtration Rate and Oxidative Stress. (Volume 26 (6), Pages 241-247, 2012, **J Biochem Molecular Toxicology**). ISSN: 1099-0461. IF-3.56

Books published/edited

Book chapters published/edited

1. **Savita Bansal**. Content development of various chapters for **Textbook of Biochemistry with Clinical Correlations, 7e by Thomas M. Devlin (Indian Adaptation)** Published by Wiley India Pvt. Ltd., ISBN: 978-93-5464-155-8 (Chapter 10 Enzymes: Classification, Kinetics, and Control; Chapter 11 Biological Membranes: Structure, Receptors, and Solute Transport; Chapter 17: Lipid Metabolism II: Pathways of Metabolism of Special Lipids)
2. **Savita Bansal**, Pawan K Kare, Ashok Kumar Tripathi, Sri Venkata Madhu. Advanced Glycation End Products: A potential Contributor of Oxidative Stress for Cardio-Vascular Problems in Diabetes. **Oxidative Stress in Heart Diseases (Springer Nature Publisher**, Editor(s) name(s): Prof. Sajal Chakraborti, Prof. Naranjan S Dhalla, Chapter 20. Page: 437-460. 2019, ISBN 978-981-13-8273-4.
3. Pawan K. Kare, Rishila Ghosh, **Savita Bansal**, Basu Dev Banerjee, Om Prakash Kalra and Ashok K. Tripathi. Advanced glycation end products-Mediated Consequences in Diabetic Nephropathy. **Advances in Medicine and Biology (NOVA Publisher)**, volume 135, page 207-221, 2018. ISBN: 978-1-53614-421-5.
4. **Savita Bansal**, Pawan K. Kare, Ashok K. Tripathi, S. V. Madhu. Advanced glycation end products: formation, metabolism and role in diabetic vascular complication. **Advances in Medicine and**

Biology (NOVA Publisher), volume 119, page 81-110, 2017. ISBN: 978-1-53611-326-6.

Association with Professional Societies

- Indian Society of Immunology (Life Member)

Reviewer

- Frontiers Molecular Biosciences, Impact factor 6.1
- International Journal of Diabetes in Developing Countries - Impact factor 1.01
- Oxidative Medicine and Cellular Longevity, Impact factor 7.3

Any other

Short course/FDP/Workshop

- Participated in workshop on “**Digital modules of Genes to Pathways**” second edition conducted between 2nd August to 17th August organized by decodelife.co.in
- Participated in the Faculty Development Program “**Aspects of Research Paper Writing**”, organized by the Khandelwal Vaish Girls Institute of Technology, Vaishali Nagar, Jaipur on 25-26 June, 2021.
- Participated in the Faculty Development Program “**Online teaching using Google classroom and Google meet**”, organized by the Website and Automation Committee & Department of Microbiology on 22nd August, 2020.
- Organized and attended five days online national Hands-on-National Workshop on “**MOODLE- An online learning management system**” organized by Department of Biochemistry 1-5th July, 2020.
- Completed four days Online Hands-on Workshop organized by Deshbandhu College under the aegis of IQAC and DBT Star College Scheme, on “**Research Methodology**” from April 1-5, 2021.
- Completed two weeks online workshop on “**Tools and Techniques in Statistical Analysis**” organised by Acharya Narendra Dev College, University of Delhi, 06-19 April, 2021.
- Completed four days Online Hands-on Workshop organized by Deshbandhu College under the aegis of IQAC and DBT Star College Scheme, on “**Research Methodology**” from April 1-5, 2021.
- Successfully completed teacher training course on “**Recombinant proteins: Expression, Purification, Characterization**” held on 2nd -16th July 2019 organized by Centre for Innovation in Infectious Disease Research, Education and Training (CIIDRET), University of Delhi South Campus in association with GE-Health Care.
- Participated in workshop on “**An Introduction to STATA for Medical Statistics**” held on 30th Nov-4th Dec, 2015, jointly organized by IHE, DU and London School of Hygiene and Tropical Medicine UK under the UK Indian Education and Research Initiative.
- Participated in workshop on “**Advanced Techniques in Genomics of Type-2 Diabetes**” held on 8th-12th February, 2011 Organized by Madras Diabetes Research Foundation (ICMR- Advanced Centre for Genomics of Type 2 Diabetes), in collaboration with University of Minnesota, U.S.A.
- Training course on “**Statistical Package for Social Sciences (SPSS)**”, 06/12/2010 to 10/12/2010 organized by Delhi University Computer Centre, University of Delhi.

Workshops and lectures at IHE as organizer/resource person

- Participated as speaker and Organizer in an outreach program on “**Basic understanding of Biosciences**” organised by department of Biochemistry and Anveshan, Biochemistry society of Institute of Home Economics **on January 20,2021.**
- Participated as speaker and Organizer in the workshop on **primer designing and In-Silico PCR** on **15 March,2020**,organized by department of Biochemistry and Anveshan, Biochemistry society of Institute of Home Economics
- Participated as Organizer in the **5 Days** workshop on **Online National Hands on Workshop on "MOODLE: An Online Learning Management System"** from **01 to 05 July 2020**, organized by Department of Biochemistry, Institute of Home Economics, University of Delhi
- Participated as Organizer in the two days **international webinar on “Bioinformatics (concepts and applications)”** from **18 to 19 September 2020** ,organized by Department of Biochemistry, Institute of Home Economics.
- Organized an outreach programme on “Unravelling the mystery of DNA” for Class XI & XII students at IHE on 19th August, 2019.
- Organized a lecture series on “Understanding lifestyle disorders: A biochemical perspective” at IHE on 12th January 2020.
- 2nd Workshop on “PCR & ELISA”, 7th Feb 2019
- 4th Workshop on “Introduction to Clinical Biochemistry”, 24 & 25th January 2019
- 3rd Workshop on “Introduction to Clinical Biochemistry”, 27 & 28th August 2018
- Participated as speaker and Organizer in seminar on “**Replacing Regulatory Experiments on Animals**” organized by PETA and Department of Biochemistry, Institute of Home Economics, University of Delhi, October 26-27, 2017.
- Participated as speaker and Organizer in the 2nd hands on workshop on “**Introduction to Clinical Biochemistry**” at Department of Biochemistry, Institute of Home Economics, University of Delhi, September 12th – 13th, 2017.
- 1st Workshop on “PCR & ELISA”, 7th April 2017
- Participated as speaker and Organizer in workshop on “**Introduction to Clinical Biochemistry**” at Department of Biochemistry, Institute of Home Economics, University of Delhi, September 1st – 2nd, 2016.
- Organized the Plenary Lecture on “**Nature of Biology Education, Research and Career**” by Prof. K. Muralidhar, JC Bose Fellow, Emeritus Professor South Asian University and Technical Workshop on “**Drug Designing and Autodocking**” at Department of Biochemistry, Institute of Home Economics, University of Delhi, 29th January, 2016.
- Organized the Lecture on “**Protein Structure and Sequence Databases**” and technical workshop on “**Autodocking**” at Department of Biochemistry, Institute of Home Economics, University of Delhi, 29th February, 2016.

Workshops/Conference/Training organised at UCMS (organizer/resource person)

- Organized the **30th Annual conference of Indian Immunology Society** at Department of Biochemistry, University College of Medical Sciences, University of Delhi, Delhi, November 15-17, 2013.
- Conducted the knowledge sharing sessions and Practical’s for international students enrolled in “**Indo-African exchange program**” at Department of Biochemistry, University College of Medical Sciences, University of Delhi.

Scientific Conferences: Abstract Presentation/attended:

Oral presentation:

- **Savita Bansal**, R Ghosh, D. Chawla, M. Siddarth, D. Malhotra, R. S Ahmed, B. D Banerjee, S V Madhu*, A. K Tripathi. Advanced glycation end products induce reactive species generation, DNA damage and apoptosis in peripheral blood mononuclear cells in vitro in proceedings of **41th Annual Conference of Research Society for the Study of Diabetes in India (RSSDI)**, November 8-13, 2013, Page no. 23-24, India Expo Centre, Greater Noida, India.

Poster presentation:

- **Savita Bansal**, Diwesh Chawla, Manushi Siddarth, Rafat S Ahmed, Basu D. Banerjee, S. V. Madhu, Ashok K. Tripathi. "Inflammatory Response in type 2 diabetes mellitus: Role of Advanced Glycation End Products" in proceedings of 39th Annual Conference of **Indian Immunology Society**, November 15-17, 2013.
- **Savita Bansal**, Manushi Siddarth, Diwesh Chawla, Dipti Malhotra, Rafat S Ahmed, Basu D Banerjee, S V Madhu*, Ashok K Tripathi. "Association of RAGE gene Polymorphisms with circulating AGEs level and Paraoxonase activity in relation to development of macro-vascular complications in type 2 diabetes mellitus patients" in proceedings of **International Symposium on developmental & complex disorders & 38th Annual Conference of the Indian Society of Human Genetics: Genomics and Community Health**, December 9-11, 2012, Page no. 137, BHU, Varanasi, India.
- **Savita Bansal**, Manushi Siddarth, Diwesh Chawla, Dipti Malhotra, Rafat S Ahmed, Basu D Banerjee, S V Madhu*, Ashok K Tripathi. "Advanced Glycation End Products-A Potential Contributor of Oxidative Stress by Priming Neutrophils in Diabetes" in proceedings of **11th Annual Conference of Society for Free Radical Research-India and International Conference on "Emerging Trends in Free Radicals, Antioxidants and nutraceuticals on Health, Disease and Radiation Biology"**, Jan 12-14, 2012, Kolkata, India.

Conference Attended

- Participated in **8th Annual Conference of Research Society for the Diabetes in India (RSSDI)** on September 23, 2012, Le Meridien, New Delhi.
- Participated in **International Conference of Society of Free Radicals Research 2008** at AIIMS, New Delhi.
- Participated in **Interdisciplinary Science Conference on Recent Trends in Research in Biological Sciences**, 2007 at Jamia Millia Islamia University, New Delhi.

Molecular and Biochemical techniques handled

- Genomic DNA, plasmid DNA, RNA, and protein isolation and quantification.
- PCR, gradient PCR, Reverse transcriptase PCR, Real time PCR, PCR based RFLP, Automated Sanger's sequencing.
- Agarose gel electrophoresis, Polyacrylamide gel electrophoresis, protein purification by affinity chromatography (ion exchange), size exclusion chromatography (G25 column), paper chromatography, TLC, Western and Southern blotting.
- Light microscopes, fluorescence microscope, and Inverted microscope.
- Colorimeters, single beam and double beam spectrophotometer, UV-spectrophotometer, Multimode-reader, NanoDrop.
- Enzyme activity assays, density and differential centrifugation, biochemical assay from blood.

Biochemical identification and quantification of different biomolecules (sugars, nucleic acids, proteins and lipids). Buffer preparations, pH-meter handling.

- *In vitro-cell* culture techniques: Handling of PBMC, PMN and Endothelial cells. MTT assay, drug treatment, DNA damage, oxidative stress analysis, Apoptosis; *invitro* preparation of advanced glycation end products
- E. coli culture.
- Data Analysis and statistical evaluation of data using statistical softwares such as SPSS, Excel etc.
- Familiar with microarray, RNAseq data analysis.

Post Ph.D Research experience

After completion of PhD, I joined Department of Biochemistry, Institute of Home Sciences, University of Delhi as Assistant Professor in 2015. I have published many peer-reviewed articles post Phd at IHE and working as reviewer for many scientific journals. I have written chapters for many prestigious books of Springer nature in 2019. I also contributed in content development for many chapters for the Indian adaptation of famous book, Textbook of biochemistry with biochemical correlation, Devlin in 2022. I organized many workshops, conferences, seminar and webinars along with faculty of Biochemistry at Institute of Home Sciences. I also visited other colleges or Institute as a resource person for lectures, seminars etc. I also participated in various research training and faculty development programmes to update and skill my knowledge. My ongoing research work related to advanced glycation products formation, T2DM, RAGE, NAFLD, oxidative stress, epigenetics, gene polymorphism w.r.t diseases development, gene regulation, and published many review articles on these topics at IHE. Also, carried out a pilot study to predict the risk of developing T2DM using anthropometric measurements and FINDRISC score in young students of IHE.

Extra-curricular Activities

- Participated in syllabus drafting for NEP of department of Biochemistry, University of Delhi.
- Involved in Paper setting and evaluation, Department of Biochemistry Course, University of Delhi.
- Being a part of IGNOU Panel, participated in taking theories, conducting practical, and exam for MSc Nutritional Biochemistry course, IGNOU
- Worked as committee member for various committees of IHE: Placement committee, Student Amenities, Internal assessment committee, automation committee, orientation committee, admission committee.