

## CURRICULUM VITAE

- I.** (a) Name: Michael Adedapo, Gbadegesin  
(b) Department: Biochemistry  
(c) Faculty: Basic Medical Sciences
- II.** (a) First Academic Appointment: Assistant Lecturer (11 November 1996)  
(b) Present Post (with date): Professor (01 October 2017)
- III.** University Education (with dates)  
(a) University of Ibadan, Ibadan, Nigeria . (1985-1989)  
(b) University of Ibadan, Ibadan, Nigeria (1994-1995)  
(c) University of Bath, Bath, UK (2001-2005)
- IV.** Academic Qualifications (with dates and granting bodies)  
(i) Bachelor of Science (B.Sc.) Hons. Biochemistry, University of Ibadan. 1989.  
(ii) Master of Science (M.Sc) Biochemistry, University of Ibadan. 1995.  
(iii) Doctor of Philosophy (PhD) Biochemistry. University of Bath, UK. 2005.
- V.** Professional Qualifications and Diplomas (with dates)  
(i) Certificate Course in Good Microbiological Practice, Bath, UK. (2001)  
(ii) Diploma in Handling Radionuclides, Amersham Pharmacia Biotech, UK. (2001)

**VI. Scholarships, Fellowships and Prizes (with dates) in respect of Undergraduate and Postgraduate work only**

- (a) U.T.C. Prize for the best graduating student in Biochemistry (1989)
- (b) Commonwealth Scholarship, Commonwealth Scholarship Commission, UK (2001-04)
- (c) Travel Grant, The Genetic Society, UK (2003)
- (d) Mountbatten Memorial Grant, Sir Ernest Cassel Educational Trust (2004)
- (e) University of Bath, Bath, UK, Travel Grant to 30<sup>th</sup> FEBS Congress & 9<sup>th</sup> IUBMB Conference, Budapest, Hungary 2005 (2005)

**VII. Honours, Distinctions and Membership of Learned Societies**

- (a) Best graduating student in B.Sc degree examinations in Biochemistry (1989)
- (b) Member Biochemical Society, UK (2001 - date)
- (c) Member The Genetic Society, UK (2002 - 2006)
- (d) Member, Nigerian Society of Biochemistry and Molecular Biology (2005 - date)
- (e) Fellow, Royal Society of Edinburgh, at University of Dundee, UK (2006)
- (f) Rothamsted International, African Fellowship (2008)
- (g) Nigerian Society of Experimental Biology (NISEB) (2010 - date)
- (h) Member, Society of Toxicology (SOT), USA (2012 -date)

**VIII. Details of Teaching Experience at the University Level**

**(a) Undergraduate Teaching (1996 to date)**

*I have given lectures to the following categories of students:*

- (i) 200, 300 and 400 levels B.Sc Biochemistry
- (ii) 300 and 400 levels B.Sc.Physiology, Biomedical Science (BMS)
- (iii) 200 and 300 levels MBBS; BDS and DVM
- (iv) 200 and 300 levels B.Sc Physiology, Microbiology and Human Nutrition
- (v) 200 level B.Sc Physiotherapy, Nursing and B.Pharmacy
- (vi) HND (LTTS) students at 400 and 500 levels (1996 -2001)
- (vii) Nurse Tutors Certificate Students (1996-2001)

*I have taught the following areas of Biochemistry*

General and Basic Biochemistry

Water Equilibria and Biochemical Thermodynamics

Chemistry and Biochemistry of Macromolecules

Protein Chemistry and Metabolism

Nucleic Acids: Genome Organisation and Biosynthesis of Proteins

Introductory Enzymology

Advanced Enzymology

Analytical Methods in Biochemistry

Principles of Immunology

Molecular Aspects of Immunology

Enzyme and Intermediary Metabolism

Endocrinology

Forensic Biochemistry

Molecular Biology

Plant Biochemistry

**(b) Undergraduate Project Supervision**

I have supervised fifty seven (57) B.Sc projects since 1996.

I am presently (Jan 2021) supervising five (5) B.Sc projects

**(c) Postgraduate Teaching (M.Sc level): 2005 to date**

*I have given lectures to the following categories of postgraduate students*

(i) M.Sc Biochemistry

(ii) M.Sc Human Nutrition

(iii) M.Sc Virology

*Areas of biochemistry taught are listed below:*

General Biochemistry

Nutritional and Industrial Biochemistry

Environmental and Experimental Oncology

Molecular Biology

**(d) Postgraduate Project Supervision**

I have supervised or co-supervised about 80 M.Sc., 10 MPhil. and PhD research projects and dissertations with the Director of Research, Cancer Research and Molecular Biology Unit, Biochemistry Department. I am currently supervising four (4) M.Sc., and 1(one) MPhil/PhD students

**(e) Internal Examiner**

- (i) B.Sc Biochemistry, MBBS/BDS Part I Biochemistry, B. Pharm, B.Sc Human Nutrition, BSc Microbiology, BSc Physiotherapy, BSc Nursing, BSc Physiology, BMS Examinations (1996 - date).
- (ii) M.Sc Biochemistry, M.Sc Virology, M.Sc Human Nutrition Examinations, University of Ibadan (2005 - date)

**(f) Internal-External Examiner**

M.Phil., M.Phil./Ph.D. and Ph.D. students, University of Ibadan in the following Departments: Botany, Physiology, Pharmacology and Virology (2010 - date)

**(g) Administrative Responsibilities and Community Services Experience**

- 1996 - 2000 Assistant Lecturer in Biochemistry
- 1997 - 1998 Co-ordinator, D.V.M programme
- 1997 - 1998 Representative of the Department of Biochemistry on the Faculty Board of Veterinary Medicine
- 1998 - 2001 Assistant Co-ordinator, B.Sc. Biochemistry programme
- 1998 - 2001 Assistant Co-ordinator, General Studies, Faculty of Basic Medical Sciences
- 1998 - 2001 Representative of the Department of Biochemistry on the Faculty Board of Pharmacy
- 2000 - 2007 Lecturer II in Biochemistry
- 2001 - 2005 Part-time Lecturer and Ph.D. student, Department of Biology & Biochemistry, University of Bath, United Kingdom
- 2005 - 2007 Co-ordinator, MBBS/BDS programme
- 2006 - 2009 Associate Lecturer, Bowen University, Iwo
- 2007 - 2010 Lecturer I in Biochemistry
- 2007 - 2010 Course Co-ordinator/Adviser, B.Sc. Biochemistry programme

- 2007 - Date Journal Review and Editorial
- Reviewer, Journal of Biomedical Research (2007 - date)
  - Reviewer, African Journal of Biotechnology (2009 - date)
  - Reviewer, Nigerian Journal of Physiological Sciences (2010 - date)
  - Member, Editorial Board, OMICS Publishing (2011 - date)
  - Reviewer, Food and Chemical Toxicology (Elsevier) (2012 - date)
  - Reviewer, Food Chemistry (Elsevier) (2013 - date)
  - Reviewer, Archive of Pharmacal Research (Springer) (2013 - date)
  - Reviewer, Toxicology and Industrial Health (2020 – date)
- 2008 - 2010 Assistant Director, Cancer Research and Molecular Biology Unit
- 2010 - Date Senior Lecturer in Biochemistry
- 2010 - 2014 Course Co-ordinator/Adviser, MBBS/BDS programme
- 2010 - Date Member, Department of Biochemistry Finance Committee
- 2010 - Date Member, Department of Biochemistry A & P Committee
- 2010 - Date Member, Examination Committee, Department of Biochemistry
- 2010 - Date Member, Disciplinary Committee, Department of Biochemistry
- 2011- 2013 Senate Member, University of Ibadan, Ibadan
- 2012 - 2014 Representative of the Dean/Sub-Dean on many occasions at the Postgraduate School Subcommittee
- 2014 - 2016 Associate Senior Lecturer, Babcock University, Ilisan-Remo
- 2014 - 2017 Reader in Biochemistry
- 2014 - Date Deputy Director, Cancer Research and Molecular Biology Unit
- 2014 - Date Co-ordinator, Postgraduate programme in Biochemistry
- 2014 - Date Member, Faculty of Basic Medical Sciences Postgraduate Subcommittee
- 2017 - Professor of Biochemistry
- 2021 - Member, Faculty of Basic Medical Sciences A & P Committee
- 2021- External Examiner, Kola Daisi University, Ibadan

## IX. Research

### (a) **Completed**

- (i) Extraction of protease inhibitors from Nigerian beans - Locust beans, pigeon pea, African yam beans and Soya beans and assessment of the effect of protease inhibitor extracts on Aflatoxin B<sub>1</sub>-induced hepatotoxicity. (Publication 1)
- (ii) Extraction of Phenolic Compounds from different cassava cultivars.
- (iii) Isolation, sequence and phylogenetic analyses of Long Terminal Repeat (LTR) retrotransposons of cassava (*Manihot esculenta* Crantz).(Publication 9)
- (iv) Characterisation of *Mutator*-like transposable elements of cassava. (Publication 5)
- (v) *Enhancer/suppressor Mutator (En/Spm)* transposons of cassava (*Manihot esculenta* Crantz): sequence and phylogenetic analysis. (Publication 9)
- (vi) Expression and epigenetic regulation of transposable elements in cassava: The role of methylation. (Publications 5 &12)
- (vii) Study on the diversity and genomic organisation of cassava transposable elements. (Publications 9, 13 & 15)
- (viii) Isolation and characterisation of cassava root specific promoters. (Publication 14)
- (ix) Assessment of toxicity of selected environmental contaminants in experimental animal models. (Publications 2, 6, 8, 10,18, 26, 27 & 28)
- (x) Studies into hepatoprotective, antimicrobial, antioxidant, reproductive and cytotoxic effects of selected medicinal plants.(Publications 1, 2, 10, 16, 22, 23, 25 & 29)

### (b) **In progress**

- (i) Further studies into hepatoprotective, antimicrobial, antioxidant, reproductive, haematological and cytotoxic effects of selected medicinal plants.

**Story so far:** These studies are elucidating the scientific basis of effectiveness and toxicities of selected medicinal plants especially those normally used in the treatment of cancers and viral diseases.

**Potential:** It is envisaged that active ingredients in some of these plants would be isolated and validated for drug development.

- (ii) Isolation and characterisation of cassava (*Manihot esculenta* Crantz) Endogenous Retroviruses  
**Story so far:** A combination of molecular biology web lab techniques and *in silico* analysis of cassava DNA sequences have been used to isolate full or near full sequence compliments of Cassava Endogenous Retroviruses. The recent availability of cassava sequence data is making this possible.

**Potential:** The study will help to understand the cassava genome better and contribute to knowledge of its origin, evolution and improvement.

(iii) Investigation into mechanism of genotoxicity of selected frequent environmental contaminants in Nigeria.

**Story so far:** We are now using *Allium cepa* model to study effects of environmental contaminants/chemicals on DNA mutation, clastogenicity and chromosomal aberration.

**Potential:** This is providing rapid tool to evaluate genetic toxicity without the use of experimental animals.

(iv) **Cancer genomics:** An investigation into the molecular signature of cervical cancer in patients presenting at the University College Hospital, Ibadan

**Story so far:** Working Clinician colleagues, we have collected clinical samples (183) and isolated DNA from (125) samples. We are now running PCR on these DNA. Extraction of DNA from other samples is also ongoing.

**Potential:** It is envisaged that genetic alterations predisposing to or associated with cervical cancer among patients presenting at UCH will be unravelled. This will ultimately help in the development of biomarkers for screening of patients at risk of the cancer thereby allowing early diagnosis and prompt management with better outcomes.

(c) **Project Dissertations and Thesis**

- i. **Gbadegesin, M.A. (1989).** Effect of Dermatophilus infection on serum iron and total iron binding capacity in the white Fulani cattles. B.Sc. Dissertation, University of Ibadan, Ibadan, Nigeria.
- ii. **Gbadegesin, M.A. (1995).** Assessment of the effect of African locus beans protease inhibitor on aflatoxin B<sub>1</sub>-induced hepatotoxicity in the Wistar rats. M.Sc. Dissertation, University of Ibadan, Ibadan, Nigeria.
- iii. **Gbadegesin, M.A. (2005).** Characterisation of transposable elements of cassava (*Manihot esculenta* CRANTZ). PhD Thesis, University of Bath, Bath, United Kingdom. 230 pp.

X. List Publications

(a) **Books already published:- Nil**

(b) **Chapters in Books already published:- Nil**

1. Akachukwu, D., Gbadegesin, M.A., Ojmelukwe, P.C. Atkinson, C.J. Biochar for climate change adaptation: Effect of heavy metal composition of Telfairia occidentalis leaves. In: Leal Filho W., Ogugu N., Adelake L., Ayal D., da Silva I. (eds). African Handbook of Climate Change Adaptation. 2021, pp. 1-21. Springer, Cham. Accessed at: <https://link.springer.com/referencework/10.1007%2F978-3-030-42091-8>

(c) **Articles that have already appeared in refereed Conference Proceedings:- Nil**

(d) **Patents and Copyrights:- Nil**

(e) **Articles that have already appeared in Learned Journal**

2. **Gbadegesin, M.A.**, Odunola, O.A. and Uwaifo, A.O. (2000): Protease inhibitor extract of fermented African locust beans (*Parkia filicoidea*) inhibits aflatoxin B<sub>1</sub>-induced rat liver glutamyl transferase activity. *Biokemistri* Vol. 10. No. 2, 93-98. (Nigeria). Contribution: - 70 %
3. Raji, Y., Awobajo, F.O., Kunle-Alabi, O.T., **Gbadegesin, M.A.** and Bolarinwa, A.F. (2006): *In vivo* and *in vitro* Reproductive Toxicity Assessment of Ampicillin and Cloxacillin in Mammalian Models. *International Journal of Pharmacology* Vol. 2. No.1, 9-14. (Pakistan). (Current Volume is 13). Contribution: - 30 %
4. Raji Y., **Gbadegesin, M.A.**, Osonuga, O.A., Adisa, R.A., Akinsomisoye, O.S., Awobajo, F.O., Kunle-Alabi O.T., Esegbue-Peters, P.R.C., Osonuga, I.O. and Lamidi, A.F. (2006): Reproductive, Haematologic and Biochemical Profiles of Male Rats Treated with Aqueous Extract of *Spondias mombin* Bark. *International Journal of Pharmacology* Vol. 2. No. 1, 126-130. (Pakistan). (Current Volume is 13). Contribution: - 30 %
5. Raji, Y., Kunle-Alabi, O.T., Olaleye, S.B., **Gbadegesin, M.A.**, Awobajo, F.O., Osonuga O.A., Odunkanmi, A.O., Salami, S.A. and Bolarinwa, A.F. (2007): Impact of  $\alpha$ -tocopherol on Metronidazole and Tetracycline-induced alterations in reproductive activities of male Albino Rats. *Journal of Biological Sciences* Vol. 7. No. 1, 41-46. (Pakistan). Contribution: - 30 %



6. **Gbadegesin, M.A.**, Gomez-Vasquez, R., Reilly, K. and Beeching, J.R. (2007): Transcriptionally active *Mutator*-like transposable element in the genome of cassava (*Manihot esculenta* Crantz). *Asian Journal of Plant Sciences* Vol. 6. No.1, 129-136. (India). Contribution: - 60 %
7. Odunola, O.A., **Gbadegesin, M.A.**, Owumi, S.E. and Uwaifo, A.O. (2007): Petroleum refining chemicals enhance Aflatoxin B<sub>1</sub>-induced toxicities in *Wistar* rats. *Journal of Medical Science* Vol. 7. No. 4, 615-619. (Bangladesh).  
Contribution: - 40 %
8. Moyib, O.K., **Gbadegesin, M.A.**, Aina, O.O. and Odunola, O.A. (2008): Genetic variation within a collection of Nigerian accessions of African yam bean (*Sphenostylis stenocarpa*) revealed by RAPD primers. *African Journal of Biotechnology* Vol. 7. No. 12, 1839 – 1846. (Kenya). Contribution:- 30 %
9. Odunola, O.A., Uka, E., Akinwumi, K.A., **Gbadegesin, M.A.**, Osifeso, O.O. and Ibegbu, M.D. (2008): Exposure of Laboratory Mice to Domestic Cooking Gas: Implications for Toxicity. *International Journal of Environmental Research and Public Health* Vol. 5. No. 3, 172-176. (USA). Contribution:- 30 %
10. **Gbadegesin, M.A.**, Wills, M.A. and Beeching, J.R. (2008): Diversity of LTR-retrotransposons and *Enhancer/Suppressor Mutator*-like transposons in cassava (*Manihot esculenta* Crantz). *Molecular Genetic Genomics* Vol. 280, 305-317. (Germany). Contribution: - 70 %
11. **Gbadegesin, M.A.**, Odunola, O.A., Akinwumi, K.A. and Osifeso, O.O. (2009): Comparative hepatotoxicity and clastogenicity of sodium arsenite and three petroleum products in experimental Swiss Albino Mice: The modulatory effects of *Aloe vera* gel. *Food and Chemical Toxicology* Vol. 47, 2454-2457. (UK). Contribution:- 40 %
12. **Gbadegesin, M.A.** and Odunola, O.A. (2010): Aqueous and ethanolic leaf extracts of *Ocimum basilicum* (sweet basil) protect against sodium arsenite-induced hepatotoxicity in *Wistar* rats. *Nigerian Journal of Physiological Sciences* Vol. 25, 29-36. (Nigeria). Contribution:-70 %
13. **Gbadegesin, M.A.** and Beeching, J.R. (2010): *Enhancer/Suppressor Mutator (En/Spm)*-like transposable elements of cassava (*Manihot esculenta* Crantz) are transcriptionally inactive. *Genetic and Molecular Research* Vol. 9. No. 2, 639- 650. (Brazil). Contribution: - 80 %
14. **Gbadegesin, M.A.** and Beeching, J.R. (2011): Highly Heterogeneous *Ty3/Gypsy*- like Retrotransposon Sequences in the Genome of Cassava (*Manihot esculenta* Crantz). *African Journal of Biotechnology* Vol. 10. No. 20, 3951- 3963. (Kenya). Contribution: - 80 %
15. **Gbadegesin, M.A.** and Beeching, J.R. (2011): Isolation and partial characterisation of root specific promoters for stacking multiple traits into cassava (*Manihot esculenta* Crantz). *Genetic and Molecular Research* Vol. 10. No. 2, 1032-1041. (Brazil). Contribution: - 80 %

16. **Gbadegesin, M.A.** and Beeching, J.R. (2011): Analysis of heterogeneity of *Copia*-like retrotransposons in the genome of Cassava (*Manihot esculenta* Crantz). *Nigerian Journal of Physiological Sciences* Vol. 26. No. 2, 125-132. (Nigeria). Contribution: - 80 %
17. **Gbadegesin, M.A.**, Odunola, O.A. and Owumi, S.E. (2011): Chemoprotective activity and toxicity of *Aloe vera* in sodium arsenite treated Swiss Albino Mice. *Journal of Science Research* Vol. 10. No. 1, 125-130. (Nigeria). Contribution: - 50 %
18. Aliyu, M., Odunola, O.A., Owumi, S.E., **Gbadegesin, M.A.**, Choudhary, M.I., Farooq, A.D., Rasheed, H., Erukainure, O.L. and Ahmed, S. (2012): Daily Consumption of Honey: Effects on Male *Wistar* Albino Rats. *International Journal of Food Nutrition and Safety* Vol. 1. No. 2, 66-74. (USA). (Current Volume is 8). Contribution: - 15 %
19. Odunola, O.A., **Gbadegesin, M.A.**, Owumi, S.E. and Somade, O.T. (2012): Induction of micronuclei in bone marrow cells and hepatotoxicity of one of the most common over-the-counter pyrethroid insecticide products in Nigeria. *Toxicology and Environmental Chemistry* Vol. 94. No. 9, 1822-1831. (UK). Contribution: - 40 %
20. **Gbadegesin, M.A.** (2012): Transposable Elements in the Genomes: Parasites, junks or drivers of evolution? *African Journal of Medicine and Medical Sciences* Vol. 41, 13- 25. (Nigeria). Contribution: - 100 %
21. Akin-Idowu, P.E., Odunola, O.A., **Gbadegesin, M.A.**, Oke, A. and Orkpeh, U. (2013): Assessment of the protein quality of twenty-nine grain amaranth (*Amaranthus spp.* L) accessions using amino acid analysis and one-dimensional electrophoresis. *African Journal of Biotechnology* Vol. 12. No 15, 1802-1810. (Kenya). Contribution: - 25 %
22. **Gbadegesin, M.A.**, Olaiya, C.O. and Beeching, J.R. (2013): African Cassava: Biotechnology and Molecular Breeding to the Rescue. *British Biotechnology Journal* Vol. 3. No 3, 305-317. (UK). (Current Volume is 17). Contribution: - 60 %
23. Owumi, S.E., Odunola, O.A., **Gbadegesin, M.A.** and Nulah, K.L. (2013): Protective effect of *Juglans nigra* on sodium arsenite-induced toxicity. *Pharmacognosy Research* Vol. 5. No. 3, 183-188. (Germany). Contribution:- 30 %
24. **Gbadegesin, M.A.** and Odunola, O.A. (2013): *In vitro* antioxidant/radical scavenging activities and hepatoprotective roles of ethanolic extract of *Cassia occidentalis* leaves in sodium arsenite-treated male *Wistar* rats. *British Journal of Medicine & Medical Research* Vol. 3. No. 4, 2141-2156. (UK). (Current Volume is 19). Contribution:- 70 %
25. Olaiya, C.O., **Gbadegesin, M.A.** and Nwauzoma, A.B. (2013): Bioregulators as tools for plant growth, development, defence and improvement. *African Journal of Biotechnology* Vol. 12. No. 32, 4987- 4999. (Kenya). Contribution:- 40 %

26. Badmus, J.A., Odunola, O.A., Yekeen, T.A., **Gbadegesin, M.A.**, Fatoki, J.O., Godo, M.O., Oyebanjo, K.S. and Hiss, D.S. (2013): Evaluation of antioxidant, antimutagenic and lipid peroxidation inhibitory activities of selected fractions of *Holarrkena floribunda* (G. Don) leaves. *Acta Biochimica Polonica* Vol. 60. No. 3, 435- 442. (Poland). Contribution:- 15 %
27. Odunola, O.A., **Gbadegesin, M.A.**, Owumi S.E., Akinwumi, K.A. and Ogunbiyi, B. (2013): Physicochemical parameters and selected heavy metals assessment of drinking water at the students' residences of the Nigerian Premier University. *African Journal of Biochemistry Research* Vol. 7. No. 10, 203- 209. (Kenya). Contribution: - 35 %
28. Owumi, S.E., **Gbadegesin, M.A.**, Odunola, O.A., Adegoke, A.M. and Uwaifo, A.O. (2013): Toxicity associated with repeated administration of artemether-lumefantrine in rats. *Environmental Toxicology* Vol. 30. No. 3, 301-307. (USA). Contribution: - 35 %
29. **Gbadegesin, M.A.**, Owumi, S.E., Akinseye, V. and Odunola, O.A. (2014): Evaluation of hepatotoxicity and clastogenicity of carbofuran in male Wistar rats. *Food and Chemical Toxicology*. Vol. 65, 115-119 (UK). Contribution: - 50 %
30. **Gbadegesin, M.A.**, Adegoke, A.M., Ewere, E.G. and Odunola, O.A. (2014): Hepatoprotective and anticlastogenic effects of ethanol extract of *Irvingia gabonensis* (IG) leaves in sodium arsenite-induced toxicity in male Wistar rats. *Nigerian Journal of Physiological Sciences* Vol. 29, 29-36 (Nigeria). Contribution: - 50 %
31. Muhammad, A., Odunola, O.A., **Gbadegesin, M.A.**, Adegoke, A.M., Olugbami, J.O. and Uche, N.S. (2014): Modulatory role of Acacia honey from north-west Nigeria on sodium arsenite-induced clastogenicity and oxidative stress in male Wistar rats. *Natural Product Research* Vol. 29, 321-326. (UK). Contribution: - 25 %
32. Owumi SE, Odunola OA, **Gbadegesin MA**, Ayoola B Onuchukwu E (2014). Effect of electronic waste on *E. coli* genomic integrity: a possible role for metal induced carcinogenesis. *Toxicological and Environmental Chemistry* Vol. 96. No. 10, 1581-1591. (UK). Contribution: - 30 %
33. Olugbami JO, **Gbadegesin MA**, Odunola OA (2014). In vitro evaluation of the antioxidant potential, phenolic and flavonoid contents of the stem bark ethanol extract of *Anogeissus leiocarpus*. *African Journal of Medicine and Medical Sciences* Vol. 43(suppl 1): 101-109. (Nigeria). Contribution: - 30 %
34. Adewale OO, Brimson JM, Odunola OA, **Gbadegesin MA**, Owumi SE, Isidoro C, Tencomnao T (2015). The Potential for Plant Derivatives against Acrylamide Neurotoxicity. *Phytotherapy Research* Vol. 29 No. 7, 978-985. (UK). Contribution: - 20 %

35. Olugbami JO, **Gbadegesin MA**, Odunola OA (2015). In vitro free radical scavenging and antioxidant properties of ethanol extract of *Terminalia glaucescens*. *Pharmacognosy Research* Vol. 7 No.1, 49-56. (Germany). Contribution: - 30 %
36. Adegoke AM, **Gbadegesin MA**, Otitoju AP, Odunola OA (2015). Hepatotoxicity and Genotoxicity of Sodium Arsenite and Cyclophosphamide in Rats: Protective Effects of Aqueous Extract of *Adansonia digitata* L. Fruit Pulp. *British Journal of Medicine & Medical Research* Vol. 8 No.11, 963-974. (UK). Contribution: - 25 %
37. Muhammad A, Odunola OA, **Gbadegesin MA**, Sallau AB, Ndidi US, Ibrahim MA (2015). Inhibitory effects of sodium arsenite and acacia honey on acetylcholinesterase in rats. *Int J Alzheimers Dis.* doi: 10.1155/2015/903603. Epub 2015 Mar 2. (USA). Contribution: - 20 %
38. Akin-Idowu, PE, Odunola OA, **Gbadegesin MA**, Aduloju AO, Owumi SE and Adegoke AM (2015). Hepatoprotective effect of *Amaranthus hypochondriacus* seed extract on sodium arsenite-induced toxicity in male Wistar rats. *Journal of Medicinal Plants Research* Vol. 9. No. 26, 731-740. (Kenya). Contribution: - 25 %
39. Owumi SE, Fatoki JO, **Gbadegesin MA** and Odunola OA (2015) Clastogenic and toxicological assessment of cashew (*Anacardium occidentale*) nut bark extracts in Wistar rats. *Acta Biochimica Polonica* Vol. 62. No. 3, 563-567. (Poland). Contribution: - 25 %
40. **Gbadegesin MA**, PE Akin-Idowu, AO Aduloju, OA Odunola (2016). Extenuation of sodium arsenite-induced oxidative stress and genotoxicity by ethanol extract of *Amaranthus hybridus* seeds in Wistar rats. *Archive of Basic Applied Medicine* Vol. 4, 9 – 14. (Nigeria). Contribution: - 40 %
41. Akin-Idowu PE, **MA Gbadegesin**, U Orkpeh, DO Ibitoye, OA Odunola (2016). Characterization of grain amaranth (*Amaranthus* spp.) germplasm in South-West Nigeria using morphological, nutritional and random amplified polymorphic DNA (RAPD) analysis. *Resources* Vol. 5. No. 1, 6; doi:[10.3390/resources5010006](https://doi.org/10.3390/resources5010006). (Switzerland). Contribution: - 30 %
42. Akin-Idowu PE, OA Odunola, **MA Gbadegesin**, OT Ademoyegun, AO Aduloju, YO Olagunju (2017). Nutritional Evaluation of five species of grain amaranth: An underutilized crop. *International Journal of Sciences* Vol. 6. No.1, 18-27. (UK). Contribution: - 25 %
43. Adegoke AM, **MA Gbadegesin**, OA Odunola (2017). Methanol extract of *Adansonia digitata* leaf protects against sodium arsenite-induced toxicities in male Wistar rats. *Pharmacognosy Research*. Vol. 9. No. 1, 7-11. (Germany). Contribution: - 30 %
44. **Gbadegesin MA**, JO Olugbami, NO Onwukwe, AM Adegoke, OA Odunola (2017). Ethanol extract of *Terminalia avicennioides* root bark protects against cadmium toxicities in rats. *African Journal of Biomed. Research* Vol. 20. No. 2, 165-172. (Nigeria). Contribution: - 50 %

45. Olugbami JO, Damoiseaux R, France B, **Gbadegesin MA**, Stieg AZ, Sharma S, Odunola OA, Gimzewski JK (2017). Atomic force microscopy correlates antimetastatic potentials of HepG2 cell line with its redox/energy status: effects of curcumin and *Khaya senegalensis*. *Journal of Integrated Medicine*. Vol. 15. No. 3, 214-230. (China). Contribution: - 20 %
46. Owumi SE, **MA Gbadegesin**, FA Olotu, OA Odunola (2017). Isoniazid Induced Toxicities and Idiosyncratic Responses in Male Albino Wistar Rats. *Journal of Cancer Research Updates* Vol. 6. No. 2, 29-37. (Canada). Contribution: - 25 %
47. Olugbami JO, Damoiseaux R, France B, Onibiyo EM, **Gbadegesin MA**, Sharma S, Gimzewski JK, Odunola OA (2017). A comparative assessment of antiproliferative properties of resveratrol and ethanol leaf extract of *Anogeissus leiocarpus* (DC) Guill and Perr against HepG2 hepatocarcinoma cells. *BMC Complementary and Alternative Medicine* Vol. 17. No. 1, 381- (UK). Contribution: - 20 %
48. Samuel ES, **MA Gbadegesin**, SE Owumi, OA Odunola (2017). Sodium arsenite-induced reproductive toxicities in male wistar rats: role of *Tridax procumbens* leaf extract. *Bull. Anim. Hlth. Prod. Afr.*, Vol. 65, 501-508 (Kenya). Contribution: - 30 %
49. Adeluwoye, AO, OA Odunola, **MA Gbadegesin**, OO Adelabu (2017). Assessment of the effect of ethanol extract of *Tridax Procumbens* (linn.) on sodium arsenite-induced Toxicities in Male Wistar Rats. *American Journal of Biomedical Sciences*. Vol. 9 No 3, 151-165 (USA). Contribution: - 30 %
50. **Gbadegesin MA**, Soremekun O, Oluwasola TAO, Okolo CA, Oluwasola AO (2017). An overview of the genetics of cervical cancer. *Archive of Basic Applied Medicine* Vol. 5 No 2, 47-57 (Nigeria). Contribution: - 50 %
51. **Gbadegesin MA**, Udegbunam EC, Olugbami JO, Adegoke AM and Odunola OA (2018). Hepatotoxicity and clastogenicity of dichlorvos at high doses in Male Wistar Rats. *African Journal of Medicine and Medical Sciences* Vol. 47 No 2, 185-19 (Nigeria). Contribution: - 50 %
52. Akachukwu D, **MA Gbadegesin**, PC Ojimekwe, CJ Atkinson (2018). Biochar remediation improves the leaf mineral composition of *Telfairia occidentalis* grown on gas flared soil. *Plants* 57. Contribution: - 30 %
53. Odunola OA, Oyibo A, **Gbadegesin MA**, Owumi SE (2019). Assessment of In-vitro Antioxidant Activities and Genotoxicity in *E. coli* of Ethanol Extracts of *Vitellaria paradoxa* (Gaertn. F). *Archive of Basic Applied Medicine* Vol. 7, 13- 20 (Nigeria). Contribution: - 30 %
54. Owumi SE, Olayiwola YO, Alao GE, **Gbadegesin MA**, Odunola OA (2019). Cadmium and nickel co-exposure exacerbates genotoxicity and not oxido-inflammatory stress in liver and kidney of rats: Protective role of omega-3 fatty acid. *Environmtnal Toxicology* 2019 Oct 22. doi: 10.1002/tox.22860 (USA). Contribution: - 20 %

55. Ige JO, **MA Gbadegesin**, JO Olugbami, AM Adegoke, OA Odunola et al (2020). A Common Insecticide Induced-Oxidative Stress in Wistar Rats: Significance for Humans and Implications for Nutritional Modulation of Insecticide Toxicity. *Journal of the American College of Nutrition* 40 (7):608-616. doi: 10.1080/07315724.2020.1812452. (USA). Contribution: - 30 %
56. Akinwumi KA, **Gbadegesin MA**, Aboyewa JA, Odunola OA (2020). Attenuation of potassium dichromate and sodium arsenite toxicities by methanol extract of Rauvolfia vomitoria in mice. *Journal of Basic and Clinical Physiology and Pharmacology* (published online ahead of print 2020), 20200037. doi: <https://doi.org/10.1515/jbcpp-2020-0037> . Contribution: - 20 %
57. Victor IA, Adegoke AM, Olugbami JO, **Gbadegesin MA**, Odunola OA (2020). Lead-induced toxicities in Wistar rats: Mitigating effects of ethanol leaf extract of Cymbopogon citratus Stapf. *Archive of Basic Applied Medicine* Vol. 8 (Nigeria). Contribution: - 20 %
58. Adegoke AM, **Gbadegesin MA**, Odunola OA (2020). Hepato-Genoprotective activities of methanol extract of the stem bark of Adansonia digitata LINN. in Wistar Rats challenged with sodium arsenite. *Niger. J. Physiol. Sci.* 35: 173 – 179. (Nigeria). Contribution: - 30 %
59. Ige JO, **Gbadegesin MA**, Olugbami JO, Adegoke AM, Odunola OA, Anetor GO, Anetor JI (2021). A Common Insecticide Induced-Oxidative Stress in Wistar Rats: Significance for Humans and Implications for Nutritional Modulation of Insecticide Toxicity *J Am Coll Nutr.* 40(7): 608-616. Contribution: - 30 %
60. Adetunji OA, Olugbami JO, Adegoke AM, **Gbadegesin MA**, Odunola OA (2021). Reno-Hepatoprotective and Antidiabetic Properties of Methanol Leaf Extract of Laportea Aestuans in Wistar Rats. *J Evid Based Integr Med.* Vol. 26:2515690X211017464. doi:10.1177/2515690X211017464.PMID: 34039071. Contribution: - 20 %
61. Odunola OA, Fashina NO, Iloba IM, **Gbadegesin MA**, Adegoke AM, Olugbami JO (2021). Antigenotoxic and hepatoprotective activities of ethanol extract of the leaf of Eclipta alba in sodium arsenite-induced toxicity. *BIOKEMISTRI.* Vol. 33: 27-38. Contribution: - 20 %
62. Adegoke AM, Gota V, Gupta S, **Gbadegesin MA**, Odunola OA (2021). Evaluation of antioxidant and anticancer activities of aqueous extract of the fruit pulp of Adansonia digitata Linn and its fractions *African Journal of Medicine and Medical Sciences* Vol. 50:9-17 Contribution: - 20 %
63. Oyibo A, **Gbadegesin MA**, Odunola OA (2021). Ethanol extract of Vitellaria paradoxa (Gaertn, F) leaves protects against sodium arsenite-induced toxicity in male wistar rats. *Toxicology reports* Vol. 8: 774-784 Contribution: - 30 %
64. **Gbadegesin MA**, Omotoso OE, Oluwasola TAO, Okolo CA, Soremekun O, Ogun GO Oluwasola AO, Odunola OA (2021). Mutational analysis of p53 gene in cervical cancer and useful polymorphic variants in exons 3 and 4. *Egyptian Journal of Medical Human Genetics* Vol. 22: 1-8. Contribution: - 40 %

65. Omotoso OE, Olugbami JO, **Gbadegesin MA** (2021). Assessment of intercontinents mutation hotspots and conserved domains within SARS-CoV-2 genome. *Infect. Genet. Evol.* 96:105097. doi: 10.1016/j.meegid.2021.105097. Epub 2021 Oct 1. PMID: 34606987; PMCID: PMC8484233  
Contribution: - 40 %
66. Omotosho IO, Adegoke AM, Olugbami JO, Adobor CA, Adebisi OA, Momoh IS, **Gbadegesin MA**, Owumi SE, Odunola OA (2021). Dexamethasone modulates biochemical and haematological indices in relation to immunosuppression. *Arch. Bas. App. Med.* Vol. 9 (1): 109– 113. Contribution: - 30 %
67. Odunola OA, Omotosho IO, **Gbadegesin MA**, Olugbami JO, Adegoke AM, Adebisi OA, Momoh IS, Adobor CA (2022). Induction of metastatic cervical cancer via HeLa cell xenograft in female Wistar rats: Modulatory effects of Yoyo Bitters. *Arch. Bas. App. Med.* Vol.10 (1): 32-40. Contribution: - 30 %

#### **XI. Selected Published Abstracts, Conferences/Workshops Papers (in the last 10 years)**

1. **Gbadegesin, M.A.**, Adegoke, A.M., Onwukwe, N.O. and Odunola, O.A. (2012). Environmental Epigenetic Carcinogens, Proc. of the 3<sup>rd</sup> Unibadan Conference for Biomedical Research. Theme ‘Biotechnology for Health and Sustainable Development’, Faculty of Basic Medical Sciences. College of Medicine. Conference Centre, University of Ibadan, Ibadan, Nigeria. 24-27 July, 2012.
2. Onwukwe N.O., **Gbadegesin, M.A.**, Olugbami, J.O. and Odunola, O.A. (2012). The Protective Effect of Ethanolic Extracts of *Terminalia avicennoides* Root Bark on Sodium Arsenite-Induced Hepatotoxicity and Clastogenicity in Wistar Rats, Proc.of the 3<sup>rd</sup> Unibadan Conference for Biomedical Research. Theme ‘Biotechnology for Health and Sustainable Development’, Faculty of Basic Medical Sciences. College of Medicine. Conference Centre, University of Ibadan, Ibadan, Nigeria. 24-27 July, 2012.
3. Aloba M.A., F.A. Olotu, O.A. Odunola, **M.A. Gbadegesin** and S.E. Owumi (2016). Abstract A12: Chronic Coartem treatment and hepatocarcinogenesis in male Wistars rat. *Cancer Research* Vol. 76 (s3): A12 – A12
4. Owumi S.E., M.A. **Gbadegesin**, F.C. Osuagwu, E. Onuchukwu, B. Ayoola, O. A. Odunola and A.O. Uwaifo (2013). Abstract A06: Electronic waste in Nigeria: potential for genotoxicity and metalloids induced carcinogenesis *Cancer Prevention Research*. Vol. 6 (s6): A06-A06
5. **Gbadegesin, M.A.** (2013). Nucleic Acids Isolation and Analysis as a Facilitator at a Workshop on Principles and Application of Polymerase Chain Reaction (PCR) Technique. Organized by Centre for Infectious & Zoonotic Diseases, University of Ibadan World Bank Supported Step-B Project. Held at Department of Virology, College of Medicine, University of Ibadan, 10-14 June, 2013.

6. **Gbadegesin, M.A.** (2013). Introduction to Recombinant DNA Technology and its Applications presented as a Facilitator at a workshop on Introductory Molecular Biology & Bioinformatics 17- 20 June, 2013.
7. **Gbadegesin, M.A.** (2014). Participant, H3ABioNet Pan African Bioinformatics Network for H3Africa, University of Botswana and H3ABioNet Curriculum Development Workshop, University of Botswana, 11-12 March, 2014.
8. **Gbadegesin, M.A.**, Olugbami, J.O. Udegbunam, E.C. Adegoke, A.M. and Odunola, O.A. (2014). Genotoxic and Hepatotoxic Effects of Dichlorvos and Ethanol in Rats. Proc. of the 4<sup>th</sup> Biennial Unibadan Conference of Biomedical Research. Theme ‘Biotechnology of Health and Sustainable Development’, Faculty of Basic Medical Sciences. College of Medicine. Conference Centre, University of Ibadan, Ibadan, Nigeria. 1-4 July, 2014
9. **Gbadegesin, M.A.**, Adisa, F.O. Olugbami, J.O., Adegoke, A.M. and Odunola, O.A. (2014). Ethanol Extract of *Terminalia glaucescens* Root Bark Ameliorates Sodium Arsenite-Induced Hepatotoxicity and Clastogenicity in Male Wistar Rats. Proc. of the 4<sup>th</sup> Biennial Unibadan Conference of Biomedical Research. Theme ‘Biotechnology for Health and Sustainable Development’, Faculty of Basic Medical Sciences. College of Medicine. Conference Centre, University of Ibadan, Ibadan, Nigeria. 1-4 July, 2014
10. Olugbami, J.O., Damoiseaux, R., France, B., Onibiyo, E.M., **Gbadegesin, M.A.**, Gimzewski, J.K. and Odunola, O.A. (2016). Comparative Assessment of the Antiproliferative Properties of Resveratrol and Ethanol Extract of *Anogeissus Leiocarpus* on HEPG2 Hepatocarcinoma Cells. Proc. of the 5<sup>th</sup> Biennial Unibadan Conference of Biomedical Research. Theme ‘Biotechnology for Health and Sustainable Development’, Faculty of Basic Medical Sciences. College of Medicine. Conference Centre, University of Ibadan, Ibadan, Nigeria. 12-15 July, 2016



Ten Best Publications that Reflect the Totality of my Contributions to Scholarship

1. **Gbadegesin, M.A.**, Gomez-Vasquez, R., Reilly, K. and Beeching, J.R. (2007). Transcriptionally active *Mutator*-like transposable element in the genome of cassava (*Manihot esculenta* Crantz). *Asian Journal of Plant Sciences* 6 (1), 129-136.
2. **Gbadegesin, M.A.**, Wills M.A. and Beeching, J.R. (2008). Diversity of LTR-retrotransposons and *Enhancer/Suppressor Mutator*-like transposons in cassava (*Manihot esculenta* Crantz). *Molecular Genetic Genomics* 280, 305-17.
3. **Gbadegesin, M.A.**, Odunola, O.A., Akinwumi, K.A. and Osifeso, O.O. (2009). Comparative hepatotoxicity and clastogenicity of sodium arsenite and three petroleum products in experimental Swiss Albino Mice: The modulatory effects of *Aloe vera* gel. *Food and Chemical Toxicology* 47, 2454-2457.
4. **Gbadegesin, M.A.** and Beeching, J.R. (2010). *Enhancer/Suppressor Mutator (En/Spm)*-like transposable elements of cassava (*Manihot esculenta* Crantz) are transcriptionally inactive. *Genetic and Molecular Research* 9(2), 639- 650.
5. **Gbadegesin, M.A.** and Beeching, J.R. (2011). Highly Heterogeneous *Ty3/Gypsy*-like Retrotransposon Sequences in the Genome of Cassava (*Manihot esculenta* Crantz). *African Journal of Biotechnology* 10(20), 3951- 3963.
6. **Gbadegesin, M.A.** and Beeching, J.R. (2011). Isolation and partial characterisation of root specific promoters for stacking multiple traits into cassava (*Manihot esculenta* Crantz). *Genetic and Molecular Research* 10(2), 1032-41.
7. **Gbadegesin, M.A.** and Beeching, J.R. (2011). Analysis of heterogeneity of *Copia*-like retrotransposons in the genome of Cassava (*Manihot esculenta* Crantz). *Nigerian Journal of Physiological Sciences* 26(2), 125-132.
8. **Gbadegesin, M.A.** (2012). Transposable Elements in the Genomes: Parasites, junks or drivers of evolution? *African Journal of Medicine and Medical Sciences* 41, 13- 25.
9. Odunola, O.A., **Gbadegesin, M.A.**, Owumi, S.E. and Somade, O.T. (2012). Induction of micronuclei in bone marrow cells and hepatotoxicity of one of the most common over-the-counter pyrethroid insecticide products in Nigeria. *Toxicology and Environmental Chemistry* 94(9), 1822-1831.
10. **Gbadegesin, M.A.**, Owumi, S.E., Akinseye, V. and Odunola, O.A. (2014). Evaluation of hepatotoxicity and clastogenicity of carbofuran in male Wistar rats. *Food and Chemical Toxicology* 65, 115-119.

## Research Focus

My research interests have been primarily in the area of genomics, toxicology of environmental contaminants and protective effects of natural products against toxicants.

Farmers, traders and consumers alike look unto scientists for continued improvement of cassava, a popular crop whose root tubers serve as raw material for tens of food products that are consumed daily in homes in Africa. My research has made substantial contributions to **genetic improvement of cassava** through understanding of its genome and its transformation. This research resulted in the isolation and characterisation of sequences of over one hundred and fifty (150) clones, representing four classes of transposable elements. These have been submitted to the GenBank at <http://www.ncbi.nlm.nih.gov/>

In addition, a cassava root-specific promoter suitable for gene expression in the vascular tissues was isolated while working in the laboratory of Dr John R. Beeching (University of Bath, UK). This has been made available for the wider cassava research community. My research has also contributed to the understanding of the extent of **diversity in a collection of germplasm** of African yam bean (*Sphenostylis stenocarpa*) and grain amaranth (*Amaranthus* spp. L). Furthermore, my research/publications have contributed to the understanding of the biological functions of transposable elements in plants and animals including enhancement of the genetic diversity, and the detrimental effects of their mobility as in undesirable traits in plants, hybrid dysgenesis in *Drosophila* and genome instability and diseases in mammals.

Another aspect of my research has led to the demonstration of the toxicity in experimental animals, and probable risk to health in humans, of some **environmental contaminants**, petrochemicals, petroleum products, domestic cooking gas and extracts of medicinal plants. This therefore serves as eye opener to the workers handling these materials and the public at large.

Through my research, **natural products of food and medicinal plant sources** that showed protective effects against chemical toxicants-induced tissue insults have been identified. For instance, fermented African locust beans (*Parkia filicoidea*), a local and traditional condiment, was demonstrated to protect against hepatotoxicity induced by Aflatoxin B<sub>1</sub>.

**Cancer genomics**, an investigation into the molecular signature of cervical cancer, is a recent study I am keenly looking into. It is envisaged that genetic alterations predisposing to or associated with cervical cancer in local patients will be unravelled. This will ultimately help in the development of biomarkers for screening of patients at risk of the cancer thereby allowing early diagnosis and prompt management with better outcomes.

In summary, my research works have spanned genomics of important food crops. Also, I have identified potential environmental toxicants as well as natural products of food and medicinal plant sources that can protect against chemical toxicants-induced tissue insults. In addition, I have recently delved into cancer genomics, an investigation into the molecular signature of cervical cancer.

Signature:



Date: 14<sup>th</sup> September, 2022