

CURICULLUM VITAE

- I. (a) Name:** Temitope Olufunmilayo, **Lawal** (Nee Odufowoke)
- (b) Department:** Pharmaceutical Microbiology
- (c) Faculty:** Pharmacy
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- (f) Tel. No.:** +2348066591756
- (g) Area of specialisation:** Natural antimicrobial and anticancer agents
- II. (a) First Academic Appointment:** Lecturer II (30 August, 2004)
- (b) Present post with date:** Professor (1 October, 2021)

III. Academic Qualifications (with dates and granting bodies):

- (a) Ph. D (Pharmaceutical Microbiology) May, 2011 (University of Ibadan)
- (b) M.Sc. (Pharmaceutical Microbiology) October, 2003 (University of Ibadan)
- (c) B. Pharm. (Bachelor of Pharmacy) February, 1998 (University of Ibadan)

IV. Work Experience with dates

- (a) Intern Pharmacist, Ogun State University (now Olabisi Onabanjo University) Teaching Hospital, Sagamu, Ogun State 1998 - 1999
- (b) Pharmacist, National Youth Service Corps (NYSC) at Federal Medical Centre, Makurdi, Benue State 1999 - 2000
- (c) Babmor Pharmacy and Stores, Agbowo, Ibadan, Oyo State 2000 – 2001
- (d) Bestway Pharmacy and Stores, Agbowo, Ibadan, Oyo State 2001 – 2004

V. Professional Qualification(s) and Continuing Education (Certificates):

- (a) Registered Pharmacist with Pharmacists' Council of Nigeria 1998
- (b) Certificate in General Computer Techniques- Wina Computer College, Ibadan 2001

- (c) Workshop on Methodology of Basic and Applied Research- Postgraduate
School, University of Ibadan. 2004
- (d) Workshop on Scholarly Writing and Publications- Postgraduate
School, University of Ibadan 2005
- (e) Pharmacists' Council of Nigeria (PCN) Mandatory Continuing Professional
Development (MCPD) for recertification of Pharmacists (Module IV) 2005
- (f) 2nd Workshop on Methodology of Basic and Applied Research- Postgraduate
School, University of Ibadan 2006
- (g) Pharmacists' Council of Nigeria (PCN) Mandatory Continuing Professional
Development (MCPD) for recertification of Pharmacists (Module VII) 2008
- (h) Certificate in Introduction to Hazardous Material Shipping and Receiving
(EHSO 3017 2008)- University of Illinois at Chicago, Illinois, USA. 2009
- (i) Certificate in Laboratory Safety and Chemical Waste Management
(EHSO 3016 2010)- University of Illinois at Chicago, Illinois, USA. 2009
- (j) Certificate in Bloodborne Pathogens and Needlestick
(EHSO 3027 2010)- University of Illinois at Chicago, Illinois, USA. 2009
- (k) Certificate in Biological Safety Cabinets: A Web-based Training
(EHSO 3016 2010)- University of Illinois at Chicago, Illinois, USA. 2009
- (l) University Curriculum Review Program (Sensitization workshop)-
MacArthur Foundation Grants, University of Ibadan 2011
- (m) Grant Writing and Mentoring Workshop- Faculty of Science,
University of Ibadan 2011
- (n) Medical Education Partnership Initiative in Nigeria (MEPIN) Year01 Faculty
Development Retreat/Symposium 2011
- (o) Awareness Workshop for Courseware Development for Women- Gender

Mainstreaming Office, University of Ibadan	2012
(p) Gender sensitization workshop-Gender Mainstreaming Office, University of Ibadan	2014
(q) Certificate in Basic Laser Safety Training (EHSO 2015) - University of Illinois at Chicago, Illinois, USA	2015
(r) Certificate in Conflict-of-Interest Training for Investigators and Key Research Personnel- University of Illinois at Chicago, Illinois, USA	2015
(s) Certificate in Animal Care and Use Courses: Animals and Research at UIC - University of Illinois at Chicago, Illinois, USA	2016
(t) Certificate in Working with Mice and Rats at UIC - University of Illinois at Chicago, Illinois, USA	2016
(u) Workshop for Academic Staff on Academic Excellence - Faculty of Pharmacy, University of Ibadan	2018
(v) Pharmacists' Council of Nigeria (PCN) Mandatory Continuing Professional Development (MCPD) for recertification of Pharmacists (Modules 13 & 14)	2018
(w) Pedagogical Leadership in Africa (PedaL) Training in Nigeria-The University of Ibadan & pasgr.org (Partnership for African Social & governance Research), UI-PASGR Training Workshop in the State-of-the-Art Teaching Skill for Postgraduate Teachers	2019
(x) Pharmacists' Council of Nigeria (PCN) Mandatory Continuing Professional Development (MCPD) for recertification of Pharmacists (Modules 10, 11& 12 - mop-up sessions)	2019
(y) Workshop for Academic Staff and Preceptors on the Implementation of Doctor of Pharmacy (Pharm. D.) programme	2020

- (z) The 2021 Research Ethics Workshop-University of Ibadan Animal Care and Use Research Ethics Committee (UI-ACUREC) 2021
- (ab) Pharmacists' Council of Nigeria (PCN) Mandatory Continuing Professional Development (MCPD) for recertification of Pharmacists (Module 15) 2022

VI. Scholarships, Fellowships and Prizes:

1. Schlumberger Foundation Faculty for the Future Postdoctoral Award utilized at the Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago, Chicago, Illinois, USA. 2015 - 2017
2. University of Ibadan Postgraduate School 2008/2009 session award for publication of articles from Ph. D thesis. 2009
3. MacArthur Foundation Award for Overseas Training utilized at the Department of Pharmacy Practice, College of Pharmacy, University of Illinois at Chicago, Chicago, Illinois, USA. 2009

VII. Honors, Distinction and Membership of Learned Societies:

Membership of Learned Societies

1. Member, Pharmaceutical Society of Nigeria (PSN)
2. Member, Nigeria Association of Pharmacists in Academia (NAPA)
3. Member, American Society for Microbiology (ASM)
4. Member, Organization for Women in Science for the Developing World (OWSD), University of Ibadan Branch

Academic, Professional and Community Honours

1. Member, Faculty of Pharmacy Induction Ceremony Committee (2005 to 2014)
2. Member, Department of Pharmaceutical Microbiology Finance Committee (2008 to 2015)
3. Faculty Representative, University of Ibadan Board of the Institute of African Studies (2009 to 2013)
4. Member, Faculty of Pharmacy Prospectus Review Committee (2010)

5. Member, Pharm. Leye Odunsi Memorial Essay Competition Committee (2010 - 2012)
6. Member, Faculty of Pharmacy Inaugural Lecture Committee (2011)
7. Acting Sub-Dean (Undergraduate), Faculty of Pharmacy (1 June, 2011 - 31 July, 2011)
8. Sub-Dean (Undergraduate), Faculty of Pharmacy (1 August, 2011 - October, 2013)
9. Faculty Representative on the Faculty Board of Basic Medical Science (1 August, 2011 - 31 July, 2013)
10. Faculty Representative on the Faculty Board of Science (1 August, 2011 - 31 July, 2013)
11. Member, Senate Committee on General Studies programme (June, 2011 - August, 2013)
12. Member, Committee on the Modalities for Computation of results for Admission exercise (CMCRAE), University of Ibadan (2011 - 2013)
13. Congregation Representative on the Senate of the University of Ibadan (2011 - 2013)
14. Examination Officer, Department of Pharmaceutical Microbiology (2014 - 2015)
15. Reviewer for the following journals:
 - Pharmaceutical Biology (2012 - 2017)
 - Nigerian Journal of Gastroenterology and Hepatology (2012)
 - African Journal of Biomedical Research
 - Archives of Basic and Applied Medicine
 - Journal of Ethnopharmacology (2016 -2017)
 - African Journal of Microbiology Research (2012 - 2016)
16. External Examiner, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Olabisi Onabanjo University, Ago-Iwoye, Ogun State (2012/2013 and 2013/2014 sessions)
17. External Examiner, Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Niger-Delta University, Wilberforce, Bayelsa State (2017/2018 session)
18. Member, Pharmacist Council of Nigeria (PCN) Accreditation Team to Gombe State University, Gombe, Nigeria (2018)
19. Member, Mandatory Continuing Professional Development (MCPD)/Foreign Pharmacy Graduate Orientation Programme (FPGOP)/Seminar Committee (April, 2018 to date)
20. Postgraduate Coordinator, Department of Pharmaceutical Microbiology (01 September, 2018 - 31 July, 2021)

21. Member, Animal Care and Use Research Ethics Committee (ACUREC), University of Ibadan (01 April, 2019 - December, 2024)
22. Member, Board of Education, University of Ibadan (August 01, 2021 - July 31, 2023)
23. Ag. Head, Department of Pharmaceutical Microbiology (August 01, 2021 - July 31, 2023)
24. Member, Board of the Postgraduate College, University of Ibadan (August 01, 2021 - July 31, 2023)
25. Member, Committee on Infrastructure, Faculty of Pharmacy, University of Ibadan (August, 2018 - July, 2023)
26. Member, Senate of the University of Ibadan (August 01, 2021 to date)
27. Member, Senate Committee on curriculum review (August 01, 2023 to date)

VIII. Details of Teaching Experience at University Level:

Undergraduate work

PHM 201: Introductory Pharmaceutical Microbiology

PHM 301: Applied Pharmaceutical Microbiology I

PHM 302: Principles of Sterilization and Asepsis

PHM 303: Applied Pharmaceutical Microbiology Laboratory

PHM 401: Pharmaceutical Biotechnology

PHM 501: Applied Pharmaceutical Microbiology III

PAA 502: Veterinary Pharmacy

PAA 501: Undergraduate Project supervision

Undergraduate Student supervision

Completed: 14

In progress: 2

Postgraduate work

PHM 701: Microbial Spoilage and Preservation (2011/2012 Session- 2020/2021 Session)

PHM 702: M.Sc. Project (2011/2012 Session to date)

PHM 703: Seminar on Directed Reading (2011/2012 Session to date)

PHM 705: Chemical Disinfection (2011/2012 Session to date)

PHM 708: Sterilization and Sterile Products (2011/2012 Session to date)

PHM 709: Advanced Bacterial Genetics and Drug Resistance (2021/2022 Session to date)

PHM 711: Advanced Bacteriology (2021/2022 Session to date)

PHM 712: Advanced Laboratory Course I (2021/2022 Session to date)

PHM 801: Advanced Laboratory Course II (2021/2022 Session to date)

Postgraduate Student Supervision

Master of Science (M. Sc.)

Completed: 10

In Progress: 2

Master of Philosophy (M. Phil.)

In Progress: 1

Doctor of Philosophy (Ph. D)

Completed: 1

IX. Research:

(i) Completed

1. Anti-microbial and gastro-protective properties of *Eucalyptus camaldulensis* and *Eucalyptus torelliana* F. Muell. crude extracts.
2. The effect of *Cnidioscolus acnitifolius* on multi-drug resistant micro-organisms.
3. Antimicrobial evaluation of plants commonly used in the management of psychosis opportunistic infections.
4. Antifungal activities of medicinal plants extracts/compounds in mucosal and submucosal dermatophytosis
5. Antibacterial potentials of medicinal plants used locally in the treatment of respiratory tract infections against rapidly growing Mycobacteria species

(ii) In Progress

1. Antibacterial and cytotoxicity/anti-cancer potentials of medicinal plants used in the treatment of gastrointestinal diseases:

Nigeria has a rich diversity of medicinal plants used for the treatment of many diseases and medical conditions including but not limited to cancer of various types. The use of medicinal plants for the treatment of cancer among the rural and semi-urban population is an age-long practice handed down from generation to generation. There are however no documented evidences of these practices hence, little is known about the science of the therapeutic potentials of these medicinal plants. The aim of this study is to investigate the activity of selected medicinal plants that are used locally for the treatment of gastrointestinal diseases and cancer as well as breast cancer. Plants were selected from ethnobotanical survey and interactions with different herb sellers at various markets in Ibadan, Oyo State. Some of these plants (eg. *Dillenia indica*, *Artocarpus altilis*) demonstrated good antibacterial activity against *Helicobacter pylori* and thus justify their use in traditional medicine. The expectation is that these plants will exhibit antibacterial activity against gastrointestinal pathogens one of which is implicated in gastric cancer, and cytotoxicity activity in gastric and related GIT cancers with goal of encouraging the consumption of such selected herbs/spices/mushrooms as a therapeutic alternative in gastrointestinal disease. The mechanism(s) of actions of such herbal/botanical extracts and/or their isolated bioactive compounds and the canonical pathways for such mechanism of action will be studied.

2. Antimicrobial activities of medicinal plants used in the treatment of urinary tract infections (UTI)

Urinary tract infections (UTI) which are among the most common bacterial infections acquired in the community, hospital and nursing homes can cause life threatening sepsis even though most infections are asymptomatic and less severe. It is mostly prevalent in women, about 50% of whom had reported having at least one urinary tract infection in their lifetime; and the most common source of bacteremia in the elderly population. Many medicinal plants have been reportedly used in treatment of urinary tract infections in traditional medicine practice. Medicinal plants including *Eucalyptus camaldulensis* Dehnh., *E. torelliana* F. Muell., *Anogeissus leiocarpus* (DC) Guill & Perr. and *Artocarpus altilis* are being screened for antimicrobial activities against microorganisms implicated in urinary tract infections.

3. *The Antimicrobial Activities of Medicinal Plants and Probiotics against Multi-drug Resistant Zoonotic Pathogens Isolated from Domestic Animals*

Close contact between people, animals, plants, and their shared environment provides an increased risk of disease transmission. Host characteristics, environmental conditions, and habitat disruption can provide new disease opportunities. These changes may lead to the spread of new or emerging diseases. Man and domestic animals have long been co-habiting with the possibility of transmission of pathogens/infections from the animal to man. This poses danger to man when such zoonotic pathogens develop resistance to antimicrobial agents. Study on the use of medicinal plants and/or probiotics to treat such infections/diseases with the aim of justifying this practice is ongoing. To this end, probiotics such as lactic acid bacteria (LAB) were isolated from rabbits and cats, and used as antimicrobial agents against pathogenic microorganisms that were isolated from the same animals. It is known that pathogenic organisms will most times be susceptible to probiotics isolated from the same source as the pathogens, and thus it is expected that zoonotic pathogens will be sensitive to probiotics isolated from the same animal. These concepts were found to be true. In the study involving cats (faecal samples), thirty species of LAB were isolated and identified as: *Lactobacillus plantarum*, *Lactobacillus plajomi*, *Weissella paramesenteroides*, *Lactobacillus paraplantum*, *Lactobacillus fermentum*, *Weissella confusa*, *Weissella cibaria*, *Enterococcus faecalis*, *Enterococcus durans* and *Enterococcus hirae*. Bacteria pathogens isolated from the same source were identified as *Bacillus cereus* C10, *Bacillus vietnamensis* I8, *Aerococcus viridans* I7, *Shigella flexneri* J4 and *Escherichia marmotae* B24. The LAB cells had significant antibacterial activity against the pathogens. This study revealed that LAB from cat feces possess significant antimicrobial activity against multidrug-resistant pathogens from the same environment. In another study involving rabbits, twenty (20) species of LAB belonging to *Lactobacillus* genus were identified and characterized, as well as the pathogens, *Myroides gitamensis* and *Citrobacter rodentium* from the same source. Viable cells and cell free supernatant (CFS) of isolated LAB inhibited the growth of the test organisms indicating that LAB from rabbit possess considerable antibacterial activity against multidrug-resistant bacteria from the same environment hence, can be suitable alternatives to antibiotics. Moreover, the susceptibility of multidrug-resistant zoonotic infectious organisms- *Salmonella gallinarum*, *Pseudomonas diminuta* and *Corynebacterium diphtheriae* (organisms isolated from poultry and

otitis media in dogs) were assessed in selected medicinal plants. *Parquetina nigrescens* and *Cnidocolus acnitifolius* inhibited the growth of these pathogens at the test dose, thus suggesting that these plants possess important phytoconstituents with activity against multi-drug resistant zoonotic microorganisms.

(iii) Project, Dissertation and Thesis:

- a. **Lawal, T. O.** (2011). Effects of *Eucalyptus camaldulensis* Dehnh. and *Eucalyptus torelliana* F. Muell. extracts on *Helicobacter pylori*, *Mycobacterium tuberculosis* and ulcer-healing in rat. (Ph. D. Thesis)
- b. **Odufowoke, R. O.** (2003). An investigation into the antimicrobial, wound-healing and ulcer-protective properties of *Eucalyptus camaldulensis* Dehnh. and *Eucalyptus torelliana* F. Muell. (M. Sc. Dissertation)
- c. **Odufowoke, R. O.** (1998). The preliminary *in-vitro* antimicrobial properties of *Albizia zygia* (Mimosaceae) and *Aspilia africana* (Compositae) (B. Pharm. Project)

X. Conferences, Workshops and Training Attended with Papers Read:

1. 3rd International African Conference on Current Studies of Science, Technology & Social Sciences, University of Abomey-Calavi (UAC), Abomey-Calavi, Benin Republic, February 27-28, 2021. (Paper presentation)

Paper read:

Aizebeoje, C. I., **Lawal, T. O.**, and Adeniyi, B. A. Antibacterial activities of lactic acid bacteria on potential multidrug-resistant pathogens isolated from rabbit.

2. 4th International Conference on Scientific Research in Nigeria, University of Ibadan, Nigeria, 20 - 23 May, 2019. (Paper presentation)

Paper read:

Lawal, T. O., Fabowale, J. A., Mebude, O. O. and Adeniyi, B. A. Antidermatophytic and antioxidant activities of *Terminalia glaucescens* Planch. ex Benth.

1. American Society of Pharmacognosy 2017 Annual Meeting, Portland, Oregon, USA, July 29 - August 2, 2017. (Paper presentation)

Paper read:

- i. **Lawal, T. O.**, Patel, S. R. and Mahady, G. B.: Cytotoxic effects of *Anogeissus leiocarpus* extracts in colon cancer cell lines and induction of apoptosis in SW480 cells through Caspase 8.
 - ii. **Lawal, T. O.**, Patel, S. R. and Mahady, G. B.: Induction of apoptosis in MCF-7 cells by extracts of *Dillenia indica* L. and *Anogeissus leiocarpus* (DC.) Guill. & Perr.
 - iii. Raut, N. A., Patel, S. R., **Lawal, T. O.** and Mahady, G. B.: Black Cohosh and 23-Epi-26-Deoxyactein modulate histone deacetylase (HDAC1) and have biphasic effects on granulosa cells.
2. 17th Annual Oxford International Conference on the Science of Botanicals, Oxford, Mississippi, USA, April 2 - 6, 2017. (Paper presentation)

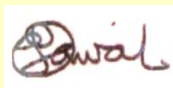
Paper read:

- i. **Lawal, T. O.**, Mahady, G. B. Patel, S. R., Raut, N. A. and Wicks, S. Ergocalciferol induce apoptosis in breast and colon cancer cell lines via caspase 3/7 and 8 and has synergistic effects with cholecalciferol and all-trans-retinoic acid.
 - ii. Mahady, G. B., **Lawal, T. O.**, Patel, S. R., Salamon I, Raut, N. A. and Wicks, S. *Ribes nigrum* L. (Grossulariaceae) and *Sambus nigra* L. (Adoxaceae) extracts enhance growth and inhibit apoptosis in rat L6 muscle cells.
 - iii. Raut, N. A., **Lawal, T. O.**, Patel, S. R. and Mahady, G. B. Inhibitory effect of *Nymphaea odorata* on gastric cancer cell lines AGS and NCI-N87: Correlation to *Helicobacter pylori* infection.
3. 16th Annual Oxford International Conference on the Science of Botanicals and the 5th Interim American Society of Pharmacognosy Meeting, Oxford Mississippi, USA, April 11-14, 2016. (Paper presentation)

Paper read:

- i. **Lawal, T. O.**, Slover, C., Lee, V. and Mahady, G. B. Ginger (*Zingiber officinale* Roscoe, Zingiberaceae) extract and 10- gingerol enhance the activity of clarithromycin against resistant *Helicobacter* strains. *Planta Medica* 2016; 82 - OA33.
- ii. **Lawal, T. O.**, Slover, C., Lee, V. and Mahady, G. B. *In vitro* susceptibility of oral pathogens to traditional medicines used to treat gingivitis and peridontal infections. *Planta Medica* 2016; 82 - PB29.

- iii. **Lawal, T. O.**, Schriever, C., Pendland, S. L. and Mahady, G. B. *In vitro* susceptibility of *Chlamydia pneumoniae* to extracts of *Curcuma longa* L. and *Zingiber officinalis* L. (Zingiberaceae). *Planta Medica* 2016; 82 - PB30.
4. Developments in Botanical Dietary Supplements Research from 1994 to Today”. Organized by College of Pharmacy, University of Illinois at Chicago, Illinois, USA, 23 March, 2010. (Paper presentation)
Paper read:
Lawal, T. O., Adeniyi, B. A., Moody, J. O. and Mahady, G. B. Combination studies of *Eucalyptus torelliana* F. Muell. leaf extracts and Clarithromycin on *Helicobacter pylori*.
5. UIC College of Pharmacy Research Day, University of Illinois at Chicago (UIC), Illinois, USA. 26 February, 2010. (Paper presentation)
Paper read:
Lawal, T. O., Adeniyi, B. A., Moody, J. O., Franzblau, S. G., Baojie, W. and Mahady, G. B. *In vitro* susceptibility of *Mycobacterium tuberculosis* to medicinal plants from Nigerian traditional medicines.
6. 2nd Natural Product Research Colloquium and Guest Lecture - From Nature to the Clinic: Global Trends in Drug Discovery and Development held at the University of Ibadan, Nigeria. 20- 21 October, 2008. (In attendance)
7. XXXth regional Scientific Conference of the West African Society for Pharmacology held at the Conference Centre, University of Ibadan. 22- 25 October, 2003.
Paper read:
Adeniyi, B. A.; **Odufowoke, R. O.** and Olaleye, S. B. Antimicrobial and gastroprotective activity of *Eucalyptus camaldulensis* crude extract.



Professor Temitope O. Lawal
08 January, 2025