

CURRICULUM VITAE

I. Name: AKIN-AJANI, Olufunke Dorothy (Nee Olurinola)
Department: Pharmaceutics & Industrial Pharmacy
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od.akin-ajani@ui.edu.ng
Postal Address: P. O. Box 20302, UI Post Office, Ibadan, Nigeria
II. Present Appointment Senior Lecturer

III. University Education:

- | | |
|--|-------------|
| (i) Ahmadu Bello University, Zaria, Nigeria. | 1988 - 1995 |
| (ii) University of Ibadan, Ibadan, Nigeria. | 2001 - 2004 |
| (iii) University of Ibadan, Ibadan, Nigeria. | 2005 - 2012 |

IV. Academic Qualifications:

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| (i) Bachelor of Pharmacy | 1995 |
| (ii) Master of Science | 2004 |
| (iii) Doctor of Philosophy | 2012 |

V. Professional Qualifications and Diplomas:

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| (i) Registered Pharmacist Pharmacists Council of Nigeria | 1996 |
| (ii) Fellow (FPCPharm) West African Postgraduate College of Pharmacists | 2016 |

VI. Scholarships, Fellowships and Grants:

(i) Scholarships and Fellowships

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|---|-----------------------|
| a. The World Academy of Science & German Research Foundation (TWAS-DFG) Fellowship Visit | Apr. – Jun. 2015 |
| b. Partnerships for Enhanced Engagement in Research (PEER) & COACH Women in Science Mentoring Award | Jul. 2018 – Aug. 2019 |

(ii) Research Grants

- | | | |
|--|---|-----------------------|
| a. Principal Investigator, TETFund-IBR Grant | Evaluation of Ceftriaxone and Ciprofloxacin-loaded Nanoparticles for the treatment of bone diseases - ₦2M | Jun. 2019 – Jun. 2020 |
| b. Co-investigator, University of Ibadan-Research Foundation Grant | Utilisation of medicinal plants and their nanoparticulate formulations as growth promoters, reproduction enhancers and anti-infective agents in <i>Clarias gariepinus</i> (African catfish) production - ₦10M | Jan. 2020 – Dec. 2022 |

VII. Honours, Distinctions and Membership of Learned Societies:

Academic and Professional Honours

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|--|------|
| a. Pharmaceutical Society of Nigeria/ Nigerian Journal of Pharmacy (PSN/NJP) Award for best poster presentation (Industrial Pharmacy Sector) | 2013 |
| b. Nigeria Association of Pharmacists in Academia (NAPA) Innovative Award (Pharmaceutics & Pharmaceutical Technology) | 2021 |
| c. West African Postgraduate College of Pharmacists (WAPCP) Award for best oral presentation | 2023 |

Membership of Learned Societies

- (i) Pharmaceutical Society of Nigeria (PSN)
- (ii) West African Postgraduate College of Pharmacy (WAPCP)
- (iii) Nigeria Association of Pharmacists in Academia (NAPA)
- (iv) Organization for Women in Science for the Developing World (OWSD)

VIII. Working Experience

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| (i) Senior Lecturer, University of Ibadan, Ibadan, Nigeria | Oct. 2019 – date |
| <u>Undergraduate Courses Taught</u> | <u>Units</u> |
| a) PCY 101 Introduction to Pharmacy | 1 |
| b) PCT 201 Introductory Pharmaceutics | 3 |
| c) PCT 202 Unit Operations | 3 |
| d) PCT 203 Pharmaceutics Practical I | 1 |
| e) PCT 301 Drug Dosage Forms I | 3 |
| f) PCT 303 Pharmaceutics Practical II | 1 |
| g) PCT 401 Drug Dosage Forms II | 3 |
| h) PCT 402 Physical Pharmaceutics II | 3 |
| i) PCT 501 Formulation and Packaging Science | 3 |
| j) PCT 502 Industrial Pharmacy | 3 |
| k) PCT 504 Production and Quality Control of Cosmetics | 2 |
| l) PAA 501 Veterinary Pharmacy | 3 |
| <u>Project Supervision Undergraduate</u> | |
| (a) Number completed – Twenty-One (21) | 2006 - date |
| <u>Postgraduate Courses Taught</u> | 2014 - date |
| (a) PCT 709 Advanced Laboratory Practicals | 2 |
| (b) PCT 712 Advanced unit operations | 2 |
| <u>Postgraduate Project Supervision</u> | 2014 - date |
| (a) Number completed – Three (3) | |

Academic and Administrative Experience in the University of Ibadan

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| a) 200 Level Course Coordinator | 2013 - date |
| b) Departmental Postgraduate Coordinator | 2014 – 2018, 2020 - date |
| c) Member, Departmental Fund - Generating Committee | 2012/2013 |
| d) Chairperson, Faculty Workplace Wellness Committee | 2013 - date |
| e) Member, Faculty Board of Studies | 2021 - date |
| f) Coordinator, Faculty Seminar Committee | 2015 - 2018 |
| g) Member, Faculty Student Welfare Scheme Committee | 2013 - 2018 |

h) Member, Faculty Induction Ceremony Committee	2014 - 2018
i) Member, Faculty Inaugural Lecture Committee	2014 - 2018
j) Member, Faculty 30 th Anniversary Committee	2013 - 2014
k) Fac. Rep., Zoo Management Board	2015 - 2021
(ii) Lecturer I, University of Ibadan, Ibadan, Nigeria	Sept. 2015 – Sept. 2019
(iii) Lecturer II, University of Ibadan, Ibadan, Nigeria	Sept. 2012 – Sept. 2015
(iv) Lecturer II, University of Lagos, Lagos, Nigeria	Aug. 2005 - Sept. 2012

Reviewer for the following Journals

1. Starch/Starke
2. Nigerian Journal of Pharmaceutical Research
3. Tropical Journal of Natural Product Research
4. AAPSPT
5. Thai Pharmaceuticals

IX. Research:

Research

- (a) The effects of plantain and corn starch binders on the compressional characteristics of paracetamol formulations and the mechanical and disintegration properties of their tablets (M.Sc. completed 2004).
- (b) Material and tablet properties of acid-modified forms of *Digitaria exilis* and *Ipomea batatas* starches in paracetamol formulations (PhD. Completed 2012).
- (c) Formulation of emulsions using *Colocynthis citrullus* L. oil (Melon seed oil) (FPCPharm. Completed 2016)
- (d) Pregelatinized freeze-dried cassava starch as a carrier for floating metronidazole tablets (Co-supervised M.Sc. project 2016)
- (e) Effect of chemical modification of plantain starch on the release properties of paracetamol tablet (Supervised M.Sc. project 2018).

Dissertation and Thesis

- (f) Age and sex differences in the effect of quinine on pentobarbitone hydroxylase in mice. B. Pharm. Dissertation, 1993.
- (g) The effects of plantain and corn starch binders on the compressional characteristics of paracetamol formulations and the mechanical and disintegration properties of their tablets. M. Sc. Dissertation, 2004.
- (h) Material and tablet properties of acid-modified forms of *Digitaria exilis* and *Ipomea batatas* starches in paracetamol formulations. Ph.D. Thesis. 2012.
- (i) Formulation of emulsions using *Colocynthis citrullus* L. oil (Melon seed oil). FPCPharm. Dissertation, 2016.

X. List of Publications

A. Refereed Journals

1. Ogunniyi QA., Ogbole OO., **Akin-Ajani OD.**, Ajala TO., Liu Q., Apriyanto A., Odeku OA., Fettke J., Oyatomi O., and Abberton M. (2023) Carbohydrate Profiling of Different Accessions of Three Underutilized Legumes: A Potential Source of Valuable Nutraceuticals and Pharmaceuticals. *Starch - Stärke* 2023, 2300184 DOI: 10.1002/star.202300184
2. Mustapha AD., Oyedepo FM., **Akin-Ajani OD.**, Odeku OA. (2023) Design and evaluation of antifungal vaginal suppository using coconut oil as base for vulvovaginal candidiasis. *Future Journal of Pharmaceutical Sciences* 9:80 <https://doi.org/10.1186/s43094-023-00533-w>
3. Ogunniyi, Q.A., Ogbole, O.O., **Akin-Ajani, O.D.**, Ajala, T.O., Olorunsola, B., Fettke, J. and Odeku, O.A. (2023). Medicinal Importance and Phytoconstituents of

Underutilized Legumes from the Caesalpinioideae DC Subfamily. *Appl. Sci.* 2023, 13, 8972. <https://doi.org/10.3390/app13158972>

4. Ogbole, O.O., **Akin-Ajani, O.D.**, Ajala, T.O., Ogunniyi, Q.A., Fettke, J. and Odeku, O.A. (2023). Nutritional and Pharmacological Potentials of Orphan Legumes: Subfamily Faboideae. *Heliyon* 9 (2023) e15493. DOI 10.1016/j.heliyon.2023.e15493
5. **Akin-Ajani OD,*** Awe T, Adediran KA. (2022) Preliminary investigation of ciprofloxacin-loaded microparticles for the treatment of bone diseases using coconut oil and shea butter. *German J Pharm Biomaterials*. Vol. 2 No. 1:18 – 25.
6. **Akin-Ajani OD**, Hassan TM, Odeku OA. (2022) Talinum triangulare (Jacq.) Willd. mucilage and pectin in the formulation of ibuprofen microspheres. *Polim Med*. 2022. doi:10.17219/pim/153520
7. Patani BO, **Akin-Ajani OD**, Kumaran A, Odeku OA. (2022) Irvingia gabonensis (O’Rorke) Bail polymer matrix system for controlled drug delivery. *Polim Med*. 2022. doi:10.17219/pim/153521
8. **Akin-Ajani, O. D.** & Agbomeji, O. I. & Odeku, O. A. & Ahmadu, U., (2022) Comparative Evaluation of the Disintegrant Properties of Starches from Three Cultivars of *Dioscorea rotundata* (Poir), *British Journal of Pharmacy* 7(1). doi: <https://doi.org/10.5920/bjpharm.880>
9. Patani B. O., **Akin-Ajani O. D.**, Kumaran A., Odeku O. A. (2022) Material and compressional properties of *Irvingia gabonensis* (O’Rorke) Bail polymers. *J. Excipients and Food Chem*. 13 (2): 64 – 76.
10. Ajala, T. O., Eraga, S., **Akin-Ajani, O. D.**, (2020) The Gelling Properties of *Dillenia indica* Mucilage in Benzyl Benzoate Emulgel Formulations. *Brazilian Journal of Pharmaceutical Sciences* (In press)
11. Okekunle, M. O., **Akin-Ajani, O. D.**, Ekpuke, B. L., Odeku, O. A., Olu-Owolabi, B. I., Adebawale, K. O., (2020) Intra and Extra-granular Disintegrant Properties of Modified Underutilised Red Lima Bean Starch in Paracetamol Tablet Formulation. *Brazilian Journal of Pharmaceutical Sciences* (In press)
12. **Akin-Ajani, O. D.**, Odeku, O. A. and Olumakinde-Oni, O., (2020) Evaluation of the mechanical and release properties of lactose and microcrystalline cellulose and their binary mixtures as directly compressible excipients in paracetamol tablets. *Journal of Excipients and Food Chemicals* 11(2): 42 – 52.
13. **Akin-Ajani, O. D.**, Ajala T. O. and Ogunnubi M. A. (2020) Formulation and antimicrobial evaluation of Isopropyl Hand Sanitizer using Co-processed Excipients *Nig. J. Pharm. Res.* 2020, 16(1): 9 – 20. <https://doi.org/10.4314/njpr.v16i1.2>
14. **Akin-Ajani O. D.**, Oluyemi, T. T. and Odeku, O. A. (2019). Formulation of Diclofenac Sodium Emulsion Using *Colocynthis Citrullus* L. (Melon) Seed Oil. *West African Journal of Pharmacy* Vol. 30. No. 2: 18–28.
15. **Akin-Ajani O. D.**, Odeku, O. A. and Babalola, Y. (2019). Formulation of Paediatric Paracetamol Suppositories Using Shea Butter and Dika Fat as Suppository Bases.

Tropical Journal of Natural Product Research Vol. 3. No. 2: 31-36. DOI: 10.26538/tjnpr/v3i2.2

16. **Akin-Ajani O. D.**, Ajala, T. O. and Ikehin, M. (2019). Date Mucilage as Co-Polymer in Metformin-loaded Microbeads for Controlled Release. *Journal of Excipients and Food Chemicals* Vol. 10. No. 1: 3-12.
17. **Akin-Ajani, O. D.**, Itiola, O. A. and Odeku, O. A. (2018) Application of the Gurnham equation in characterizing the compressibility of fonio and sweet potato starches and their paracetamol tablet formulations. *Nigerian Journal of Pharmaceutical Research* 14 (1): 25-33
18. **Akin-Ajani O.D**, Ajala T.O, Okoli U. M., Okonta O. (2018) Development of directly compressible excipients from *Phoenix dactylifera* (Date) mucilage and microcrystalline cellulose using co-processing techniques. *Acta Pharmaceutica*: DOI: 10.23893/1307-2080.APS.05615
19. Odeku, O. A., Aderogba, A. A., Ajala, T. O. **Akin-Ajani, O. D.**, Okunlola A. (2017) Formulation of floating metronidazole microspheres using cassava starch (*Manihot esculenta*) as polymer. *Journal of Pharmaceutical Investigation* DOI 10.1007/s40005-017-0319-7
20. Ajala, T. O., **Akin-Ajani, O. D.**, Ihuoma-Chidi, C., Odeku, O. A. (2016) *Chrysophyllum albidum* mucilage as a binding agent in paracetamol tablet formulations. *Journal of Pharmaceutical Investigation* 46 (6): 565 – 573 DOI 10.1007/s40005-016-0266-8
21. **Akin-Ajani, O. D.**, Itiola, O. A. and Odeku, O. A. (2016) Evaluation of the disintegrant properties of native and modified forms of fonio and sweet potato starches. *Starch/Stärke* Vol. 68. No. 1-2. 169-174
22. **Akin-Ajani, O. D.**, Itiola, O. A. and Odeku, O. A. (2014) Effect of acid modification on the material and compaction properties of fonio and sweet potato starches. *Starch/Starke* Vol. 66. No. 7-8. 749-759
23. Dare K, **Akin-Ajani D.O**, Odeku O. A, Odusote O. M, and Itiola O. A. (2006) Effects of pigeon pea and plantain starches on the compressional, mechanical and disintegration properties of paracetamol tablets. *Drug Dev. & Industrial Pharmacy*. *Drug Dev. & Industrial Pharmacy*; 32(3): 357- 365
24. **Akin-Ajani O. D.**, Itiola O. A. and Odeku O. A. (2005). The effects of plantain and corn starches on the mechanical and disintegration properties of paracetamol tablets. *AAPS PharmSciTech.*; 6(3): 458 - 463

B. Published Conference Proceedings

NIL

C. Books/Chapter in a book

1. Ajala T. O., **Akin-Ajani O. D.**, Odeku O. A., 2013. Recent Advances in Oral Drug Delivery Systems. In: **Recent Advances in Drug Delivery Research**. Editor: Violiani, V., Nova Science Publishers Inc., NY, USA. Chapter 2, pp. 33-51. ISBN: 978-1-62948-228-6
2. **Akin-Ajani, O. D.** and Odeku, O. A., 2020. Gastrointestinal Bioadhesive Drug Delivery Systems and Their Applications In: **Bioadhesives in drug delivery**.

Editors: Mittal, K.L., Bakshi, I. S., Narang J. K., Scrivener Publishing LLC, MA, USA. Chapter 9, pp. 245 – 257. ISBN: 9781119640196 <https://doi.org/10.1002/9781119640240.ch9>

3. **Akin-Ajani, O. D.** and Okunlola, A., 2021. Pharmaceutical Applications of Pectin. In: **Pectins - The New-Old Polysaccharides**. Editor: Masuelli M. A. DOI: <http://dx.doi.org/10.5772/intechopen.100152>
<https://www.intechopen.com/books/pectins-the-new-old-polysaccharides/pharmaceutical-applications-of-pectin>
4. Kola-Mustapha, A.T., **Akin-Ajani, O.D.**, Adedeji, O.J. and Odeku, O.A. (2023). Nanodrug Delivery System for Brain Targeting. Chapter 3. In: *Nanotechnology and Drug Delivery: Principles and Applications*. Editor: Sindhu, R.K., Jenny Stanford Publishing Pte Ltd. 46 pages ISBN 978-981-4968-83-6 (Hardcover), 978-1-003-43040-7 (eBook) www.jennystanford.com

D. Patents and Copyrights

1. Sowumi, M.A., Ademodi, Y.F. and **Akin-Ajani, O.D.** (2021). Production of capsules of oil palm pollen. NG/PT/NC/2021/5832. (Nigeria).

XI. Major Conferences Attended with Papers Read

1. 2nd Workshop of the Nigeria Association of Pharmacists in Academia (NAPA) University of Ibadan Branch on “Enhancing Teaching & Research In Pharmacy” held at the Faculty of Pharmacy, University of Ibadan, Ibadan, Nigeria. May 3, 2018.
2. University of Ibadan Research Foundation (UIRF) Workshop in partnership with The McGoldrick Professional Development Program in Public Health, at the Harvard University, Boston and the Africa Research, Implementation Science, and Education (ARISE) Network on “Quantitative Methods In Monitoring And Evaluation” held at The Conference Center, University of Ibadan, Ibadan, Nigeria. July 2 - 6, 2018.
3. Workshop on “Partnerships for Enhanced Engagement in Research (PEER) & COACH Women in Science Mentoring Program” held at The Hotel des Mille Collines Hotel, Kigali, Rwanda. July 11-13, 2018.
4. 3rd Annual Conference of Medicinal Plants and Economic Development (SOMPED) held at Kopanong Hotel and Conference Centre, Johannesburg, South Africa. August 26-30, 2018.

Paper read:

Formulation of diclofenac sodium emulsions using *Colocynthis Citrullus L.* (melon) seed oil

5. UI-MEPI-J Training Workshop on “Grant Proposal Writing” Held at Carlton Hotel, Ibadan, Nigeria. October 23-27, 2018.
6. OWSD (University of Ibadan, Chapter) Workshop on “Wellness & Work-life Balance for Researchers” held at Otunba Subomi Balogun Hall, UI Hotels, Ibadan, Nigeria. August 8, 2019.

7. International Training Workshop on “Material Development from African Plants Using Biotechnological Approaches” held at the UI Centre for Sustainable Development, 20 Awolowo Avenue, Bodija, Ibadan, Nigeria. July 7 – 9, 2021.
8. 19th NAPA National Scientific Conference on “Challenges and opportunities in advancing the Pharma sector in Nigeria: Lessons from the COVID-19 Pandemic” held at Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka, Nigeria. August 16 – 20, 2021.

Paper read:

Evaluation of *Talinum triangulare* mucilage and pectin in the formulation of ibuprofen microspheres

9. 5th Annual SOMPED International Conference on “Medicinal Plants: Sustainable Medium for Health and Wealth” Online Conference - hosted by SOMPED Ghana Branch. August 24 - 26, 2021.

Paper read:

Preliminary investigation of ciprofloxacin-loaded microparticles for the treatment of bone diseases using coconut oil and shea butter

10. Women in Academia Advancement Network - Innovative-Mentoring Training Workshop on “Academic Excellence through Innovative Mentoring” held at UI Hotels, University of Ibadan, Ibadan, Nigeria. December 5 - 9, 2021.
11. Alexander von Humbolt Foundation sponsored Research Group Linkage Programme Workshop on “Yam Genetics & Omics Research in Africa” held at IITA, Ibadan, Nigeria. November 9 – 11, 2022
12. 35th Scientific Symposium & AGM of the West African Postgraduate College of Pharmacists (WAPCP) on “Substance Abuse: A Threat to Future Workforce” held at Paynesville Town Hall, Paynesville City, Liberia. March 20 – 23, 2023.

Paper read:

Formulation and biopharmaceutical evaluation of fixed combination suppository for nocturnal asthma

13. Humboldt Kolleg/ Conference 2023 on “Repositioning Science and Technology to Tackle Food Security, Environmental and Health Challenges Through Research Collaborations and Capacity Building for Sustainable Development” held at Aderemi Makanjuola Auditorium, Lagos State University, Ojo, Lagos, Nigeria. May 1 – 5, 2023.

Paper read:

Comparative assessment of selected brands of fluconazole in Ibadan, Southwest Nigeria