

## PUBLICATIONS

1. Fadipe, T.O., Jamil, N. and **Lawal, A.K.**, 2021. Biosynthesis and Characterization of Poly-(3)-hydroxyalkanoic Acid by *Bacillus megaterium* SF4 using Different Carbohydrates in Microbial Polymers. SpringerNature Publishing (in press).
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## **BOOK CHAPTERS**

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4. Fadipe T.O., Alebiosu F.A., Akadiri O.O., Odusote, A.D., Kolawole T.O., Baruwa A.S., Ibidapo O.I., Ehiwuogu-Onyibe J., Lawal A.K. 2019. Assessment of Polyhydroxyalkanoates Production Potential of Some *Bacilli spp.* 32nd Annual Biotechnology Society of Nigeria Conference. International Institute of Tropical Agriculture, Ibadan, Nigeria. August 2019.
5. Baruwa A.S., Nwagala, P.N., Oladipupo, B.O., Augustine, C.P., Dada, F.T., Orji, F.A. and Lawal, A.K. (2019). Microbial production of lipases from local sources. Proceedings of Biotechnology Society of Nigeria Conference.
6. Salaam O. Temitope, Jamil Nazia and Lawal K. Adekunle. 2018, Biosynthesis of Poly-3-hydroxyalkanoates by Starch Hydrolyzing *Bacillus cereus* C113. 31st Annual International Conference of the Biotechnology Society of Nigeria - BSN- Ota '18 held at Covenant University, Ota, Nigeria. August 2018.
7. Salaam O. Temitope, Jamil Nazia and Lawal K. Adekunle. 2018. Biosynthesis of Polyhydroxyalkanoates Synthesis by *Bacillus aryabhatai* C48 Isolated from Cassava Dumpsites. American Society for Microbiology Conference, Atlanta, USA. June 2018.
8. Salaam O. Temitope, Jamil Nazia and **Lawal K. Adekunle**. Bacterial Production of Poly-3-hydroxyalkanote using Sustainable Raw Materials for Biodegradable Plastics. Microbiology and Molecular Biology Conference 2018, Lahore, Pakistan. February 2018.
9. Salaam O. Temitope, Alebiosu A. Folashade, Idowu O. Opeyemi, **Lawal K. Adekunle**, Elemo N. Gloria and Jamil Nazia. 2016. Screening of Polyhydroxyalkanoates Bacteria from Cassava and Sugar Sites in South-Western Nigeria. International Symposium on Biomedical Materials: Clinical Requirements and Regulatory Affairs, Lahore, Pakistan. December 2016.
10. Orji, F.A., Dike, E.N., Lawal, A.K., Fashola, F., and Elemo, G.N. (2016). Identification of co-factors behavior of manganese ion on cellulose from atoxigenic *Aspergillus flavus* strain (M15). A paper published at the 39th Annual Scientific Conference and General Meeting of the Nigerian Society for Microbiology, UNN, 2016.
11. **Lawal A.K.** (2000) Characteristics of Pig waste feed stock for the design parameter for biogas plant. A paper presented at the 23 Annual Conference of the Nigerian Society for

- Microbiology. Conference held between 10-14 Sept. 2000 at IGBINEDION University, Okada City Edo State, Nigeria.
12. **Lawal A.K.** (2000) mutational studies for hyper producing organism for L-glutamic acid production. A paper presented at the 23 Annual Conference of the Nigerian Society for Microbiology held between 10-14 Sept. 2000 at IGBINEDION University, Okada City Edo State, Nigeria.
  13. **Lawal, A.K.** (1998). The Future of Industrial Microbiology in Nigeria. A paper presented at National Association of Microbiology student week at University of Lagos, Akoka, Lagos, Nigeria. Between 8-10 October 1998.
  14. **Lawal, A.K.** (1997). Biogas Generation through Anaerobic Digestion of high Pollution waste from Industrial, domestic, and other sources. A Paper presented at a 3day Workshop on Pollution Control and Challenges ahead held at the Akinrele Auditorium, FIIRO Lagos, Nigeria between 6 -8 August 1997.
  15. **Lawal, A.K.** and Oso, B.A (2001) Nutritional studies for L-glutamic acid Production from Agro-Industrial waste. A paper presented at the 2 Annual Conference of Lagos. State University, Faculty of Science, Badagry Expressway, Ojo. Apapa Lagos, Nigeria.
  16. **Lawal, A.K.** and Oso, B.A. (2001) Mutagenesis of Wild Strains of *Bacillus* for enhanced L-Glutamic acid production. Paper presented at the 2 Annual conference of Lagos State University, Faculty of Science, Badagry Expressway, Ojo, Apapa Lagos, Nigeria.
  17. **Lawal, A.K.** Ajuebor, F.N and Ojosu, J.O. (2001) characteristics of pig waste feedback for determination of design parameters for biogas digester plants. A paper presented at and the 2<sup>nd</sup> annual Conference of Lagos State University, Faculty of Science, Badagry Expressway, Ojo, Apapa Lagos, Nigeria.
  18. **Lawal, A.K.** (1998) L-glutamic acid production from some Agro-Industrial wastes. A paper presented at the 21 Annual conference of the Nigerian Society for Microbiology held at the Akinrele Auditorium, Federal Institute of Industrial Research Oshodi, Lagos, Nigeria.
  19. **Lawal, A.K.** (1998) Nutritional Requirement for L-glutamic acid production by *Bacillus subtilis*. A paper presented at the 21<sup>st</sup> Annual conference of the Nigerian Society for Microbiology held at the Akinrele Auditorium, Federal Institute of Industrial Rsearch Oshodi, Lagos, Nigeria.

20. **Lawal, A.K.**, Ayanleye, T.A., Koleoso O.A. and Oniwinde, A.B. (1995). Pretreatment of water hyacinth (*Eichhornia crassipes*) for Anaerobic biodegradability. A thpaper presented at the 18 Annual Conference of the Nigeria Society for Microbiology held at the University of Benin Edo State Nigeria.
21. **Lawal, A.K.**, Ayanleye , T.A. and kuboye, O. A (1995). Biogas Production from some thAnimal Wastes. A paper presented at the 18<sup>th</sup> Annual Conference of the Nigerian Society for Microbiology held at the University of Benin do State Nigeria.

## **PATENTS**

1. Method of producing fermented sweet potato flour using starter culture, RP:NG/P/2018/264
2. Production of Indigenous extracellular microbial amylases and their applications, RG:NG/P/2016/136
3. Generation of biogas from piggery waste using 42m3 biogas digester, RP:NG/P/2010/457

## **INVITED LECTURES**

1. **Lawal, A.K.** (2013). Production and utilization of industrial Enzymes – FIIRO's Contribution. A paper presented at the collaborative study visit between FIIRO and the University College of London (UCL)
2. **Lawal, A.K.** (2001) Review of Biogas in Nigeria. A paper presented at 2001 China TCDC International Training Course in Chengdu, Sichuan Province, China PAPERS presented as Guest Speaker
3. **Lawal, A.K.** (2002). Utilization of Wood Wastes for Biogas and Biofertilizer. A paper presented at skill acquisition workshop on "Recycling and Waste Management Business opportunities for women". Organized by Fedrick Ebert Stiftung (FES) for National Women in cooperative (NWIC); Lagos State Branch.
4. **Lawal, A.K.** (1999). Development of Preservative System and Properties of antimicrobial agents. A paper presented at training course organized by Oma Novo Konsult, Lagos, Nigeria.
5. **Lawal, A.K.** (1998). The Future of Industrial Microbiology in Nigeria. A paper presented at University of Lagos. Nigeria. For National Association of Microbiology student week.

6. **Lawal A.K.** (1997). Biogas generation through anaerobic digestion of high pollution waste from Industrial, domestic, and other sources. A Paper presented at a training workshop organized by the Association of Industrial Microbiologist of Nigeria, Lagos, Nigeria.

## **INTERNAL RESEARCH REPORTS**

1. Development and production of amylase and glucoamylase from agro – industrial wastes.
2. Development and production of proteases from agro – industrial wastes.
3. Development and production of glucose syrup from rice paddy.
4. Development and production of xylanases from agro – industrial wastes.
5. Production of carbonated fruit juices from mango, pawpaw, and pineapple.
6. Production of clarified fruit juices using pectinase enzymes developed through R&D.
7. Production of pectinase enzymes from agro – industrial wastes.
8. Development and production of L – glutamic acid from agro – industrial wastes.
9. Development and production of condiments from lesser-known seeds.
10. Production and utilization of microbial tannase using agro – residues.
11. Development and production of indigenous starter cultures for yoghurt production.
12. Bacterial production of poly-hydroxyalkanoates (PHA) for biodegradable plastics.
13. Isolation, cultivation, proximate and biochemical phytochemical, and molecular characterization of *Calocybe indica* (Milky Mushroom).
14. Development and production of Baker's yeast.
15. Production of cellulose, xylitol and animal feeds from Brewers' spent grain
16. Isolation and domestication of *Calocybe indica*.
17. Development and production of biopesticides using agro industrial wastes.

## **DEVELOPED PRODUCTS IN FIRO**

1. Biogas and biofertilizer
2. L – glutamic acid
3. Industrial enzymes
  - i. Amylase
  - ii. Glucoamylase
  - iii. Pectinase

- iv. Protease
- v. Cellulase
- 4. Carbonated fruit juice
- 5. Kunu – Zaki
- 6. Mushroom spawns
- 7. Mushroom fruiting bodies

### **GRANT AND AWARDS**

- 1. British Council Grant for the construction of a 42m<sup>3</sup> biogas digester at Oko-Oba Lagos State Nigeria, 1990.
- 2. Award for excellence as guest speaker at the 10th International Biotechnology Conference and Exhibition and Workshop (IBCE&W20), Covenant University, Ota, 2020.

### **LOCAL AND INTERNATIONAL COLLABORATIONS**

- 1. Collaboration with University College of London (UCL) on Biocatalysis
- 2. Collaborated with Lagos State Government for the construction of a 42m<sup>3</sup> biogas digester at Oko-Oba Lagos State Nigeria.

### **WORKSHOP, SYMPOSIUM AND COURSES ATTENDED**

- 1. Training Workshop by industries by the Association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos on optimizing laboratory equipment performance and life span, 24<sup>th</sup> March 2015
- 2. Symposium on Validation of Microbiological methods, by the Association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 22<sup>nd</sup> October 2014
- 3. 20<sup>th</sup> Mandatory Training Workshop by Institute of Public Analyst of Nigeria (IPAN). Theme: Quality Assurance in Laboratory management, Lagos. 18<sup>th</sup>-19<sup>th</sup> November 2014.
- 4. IPAN. 20<sup>th</sup> Mandatory Training Workshop (2014). Theme: Modern Trends in Analysis and instrumentation.
- 5. AIMN. Annual Symposium (2014). Validation of Microbiological Methods.

6. IPAN. 18<sup>th</sup> Mandatory Training Workshop (2013). Theme: Food Safety. An imperative for national development.
7. IPAN. 16<sup>th</sup> Mandatory training Workshop (2012). Theme: Sampling Techniques and Sample Analysis. Modern Trends.
8. AIMN. Annual Symposium (2012). Contemporary Microbiological Challenges in the Food, Beverage, Brewery and Pharmaceutical Industries.
9. IPAN 14<sup>th</sup> Mandatory Training Workshop. Theme: Role of public analyst towards the achievement of millennium development goals (MDGS).
10. Leadership and management skills for high quality and more relevant research, (2012). Organized by PSL Consulting.
11. Symposium on Application of HACCP in improving the quality of finished products by the Association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 14<sup>th</sup> August 2011.
12. Needs Assessment, Research methodology, Report writing, Project Monitoring and Evaluation Workshop by the University of Ibadan Consultancy Services Unit, 28<sup>th</sup>-30<sup>th</sup> June 2010.
13. 10<sup>th</sup> Mandatory Training workshop by Institute of Public Analyst of Nigeria (IPAN). Theme: Quality Assurance in Laboratory management, Lagos 10<sup>th</sup>-11<sup>th</sup> November 2009.
14. Symposium on the challenges of water quality management in industries by the Association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 19<sup>th</sup> August 2009.
15. International Biotechnology Symposium (IBS). 'Biotechnology In: An emerging economy at Covenant University' 28<sup>th</sup> – 30<sup>th</sup> April 2009.
16. 9<sup>th</sup> Mandatory Training Workshop: Environmental Analysis for sustainable development: Institute of Public Analysts of Nigeria (IPAN), Lagos 28<sup>th</sup>-29<sup>th</sup> April 2009.
17. Current Good Manufacturing Practices (cGMP) A Tool for attaining Global Standards in Food, Beverage and Pharmaceutical industries by association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 20<sup>th</sup> August 2008



18. Workshop on proposal writing and research management by KVL Industrial Consultancy Ltd.) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 1<sup>st</sup>- 2<sup>nd</sup> July 2008.
19. Symposium on Cleaner production and sustainable Industrial development by association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 3<sup>rd</sup> October 2007.
20. Symposium on industrial raw materials (Alternatives, Adaptations and Implications) by association of Industrial Microbiologist of Nigeria (AIMN) at the Federal Institute of industrial research Oshodi (FIIRO) Lagos 7<sup>th</sup> September 2005
21. Molecular Biology Techniques. Starter Culture Development and Food Production. 4<sup>th</sup> - 6<sup>th</sup> May 2005. Organized by Danifol Biotechnology Consult. Lagos, Nigeria.
22. Industrial Raw materials Alternatives, Adaptations, and Implications. (2005) organized by AIMN.
23. Performance enhancement Training aiming for excellence in performance (2003). Organized by AIMN.
24. Biotechnology- a tool for National Development (2001). Organized by the Association of Industrial Microbiologist of Nigeria.
25. The 26 International Training course on Biogas Technology held from June 4-July 18, 2001 at Asia-Pacific Biogas Research and Training Center (BRTC). 4-13, Renmin Nan Street, Chengdu, 610041, Sichuan Province, China.
26. Microbiology in the New Millennium. (1999). Organized by Association of Industrial Microbiologist of Nigeria.
27. Challenges facing Microbiologist in the New Millenium (1999). Organized by AIMN.
28. Microbes in the changing World (1998). Organized by AIMN.
29. The Optimization of Biogas production held at the Folkecenter for Renewable energy. Kammersguardsverg,16, sdr, ydby.7760 Hurup Yhy. Denmark July 19 - August 26, 1994.
30. International course on the Biotechnology of Biogas production. (New Approaches using Thermophilic Microorganism. Held at Imo State University, Okigwe. 13 -26August. 1989.

## **EDITORIAL MEMBERSHIP / REVIEWER OF JOURNALS**

1. Editor in Chief, Journal of Industrial Research Technology (2015 – till date).
2. Reviewer, Journal of Industrial Research Technology

## **MEMBERSHIP OF SCIENTIFIC SOCIETIES AND PROFESSIONAL BODIES**

1. American Society for Microbiology (ASM).
2. Nigerian Society for Microbiology (NSM)
3. Association of Industrial Microbiology of Nigeria (AIMN) – President, 2018 till date
4. Nigeria Institute for Food Science and Technology. (NIFST).
5. Institute of Public Analyst of Nigeria (IPAN) with practice No: 00646

## **THESIS SUPERVISED / EXAMINED (INSTITUTIONS AND DATES)**

- External moderator at Lagos State Polytechnic in the department of Pure and Applied sciences, 2013 till date
- External assessor for staff due for promotion from principal lecturer to chief lecturer in Biological Science department of Yaba College of Technology, Yaba 2014.
- External moderator at Yaba College of Technology in the department of Biological Science, 2012

## **TEACHING EXPERIENCE**

1. External Examiner/Moderator (2014 – 2015)

Department of Microbiology

Lagos State Polytechnic

2. Adjunct Lecturer (2014 - 2016)

Department of Microbiology

University of Lagos

3. Adjunct Lecturer (2013 – 2014)

Department of Microbiology

Lagos State University

4. Adjunct Lecturer (2011 – 2014)

Covenant University, Ota

5. External Examiner (2011)

Yaba College of Technology

6. Senior Lecturer (Sabbatical, 2010 - 2011)

Covenant University, Ota Ogun State Nigeria.

#### **ADMINISTRATIVE ROLES IN FIIRO**

1. Director Biotechnology Department - June 2018- till date
2. Ag. Director Biotechnology Department - May 2017- June 2018
3. Deputy Director (Enzyme Technology Division) - Jan 2012 – May 2017
4. Ag. Deputy Director (Analytical Division) - July 2011 – Jan 2012

#### **COMMITTEE RESPONSIBILITIES IN FIIRO**

1. Commercialization Committee of FIIRO's Technology for the 50th Anniversary Celebration
2. Symposium and Publication Committee for FIIRO's 50th Anniversary Celebration
3. Committee on the preparation of Practical Strategies for the Technologies and Industrial in Nigeria.