

CURRICULUM VITAE

Name: **Professor Francis Enejo Idachaba**
Professor of Communication Engineering and
Director Academic Planning.
Covenant University Ota

Place of Birth: Jos, Plateau State, Nigeria.
State of Origin: Kogi state
Postal address: Department of Electrical and Information Engineering.
Covenant University Ota. Ogun State. Nigeria

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ACADEMIC AND PROFESSIONAL QUALIFICATION

Graduate Teaching Certificate

Massachusetts Institute of Technology (MIT) USA 2013

PhD Electronics and Telecommunications

University of Benin, Edo State 2009

M.Eng Electronics and Telecommunications (Distinction)

University of Benin, Edo State 2001

B.Eng. Electrical/Electronic Engineering

Federal University of Technology Yola Adamawa State 1997

Higher Certificate in Computer Information Technology (Distinction)

Federal University of Technology consultancy unit Yola Adamawa State 1997

PROFESSIONAL MEMBERSHIPS

Member Society of Petroleum Engineers. (SPE) No 3554316

Member Nigerian Society of Engineers (MNSE) No 16169

COREN Registered Engineer R.18, 129

Member International Association of Engineers (IAENG) No 104842

DEGREE THESIS AND REPORTS

1. **PhD Thesis:** Analysis and Development of a Low Cost GSM Telephone System for a Rural Area
2. **M.Eng Project:** Design and Construction of a Microprocessor-based Process Monitoring and Control Unit for an Oven Control
3. **B.Eng. Project:** Design and Construction of a Rechargeable Standby Power Supply System.

PATENTS AWARDED

1. Renewable charge harvesting architecture for the design of an Electric bus; Awarded in 2015
2. Low power Bidirectional Transceiver for GSM base station Transceivers. Awarded in 2016
3. Offshore Pipeline Monitoring Tool. Awarded in 2017
4. Pipeline Leak Inhibitor Tool for Onshore and Offshore Crude Oil Pipeline networks, Awarded in 2017
5. Automatic Solar Panel Cleaning Machine Awarded in 2018
6. Offshore Pipeline Leak Containment Tool Awarded in 2018

PATENT REGISTRATIONS IN PROGRESS

1. Renewable charge harvesting architecture for the design of an Electric Car
2. Design of an Inline Electric power generating system using fluid flow in pipelines or flow lines
3. Smart Waste Bins
4. Oil and Gas Pipeline Rupture Leak Containment Tool
5. A 5G Add-On Device for 2G,3G and 4G MOBILE PHONES
6. Diversion Alert And Location Monitoring Device For Petrol Tankers

FELLOWSHIPS AND AWARDS

1. CAFIR/ AMII Summer school on Deep Learning and Reinforcement Learning in Canada 2019
2. ACM SIGIR/SIGKDD Africa School on Machine Learning for Data Mining and Search
Travel grant to South Africa 2019
3. NCC Research Grant for University faculty (9 Million Naira) 2018
4. SPE Faculty Enhancement Travel Grant 2015
5. SPE Faculty Enhancement Travel Grant 2014
6. Best Paper Award Society of Petroleum Engineers (SPE) 37th NAICE 2013 Lagos Nigeria 2013
7. Total/Google/MIT sponsored Empower the Teachers Fellowship at Massachusetts
Institute of Technology MIT. USA. 2013
8. Shell Sabbatical Fellowship at Shell Petroleum Development Company
Port Harcourt Nigeria 2010 – 2012

ENGAGEMENTS OUTSIDE THE UNIVERSITY

1. Member Advisory Board of the National Preparatory Meeting for Nigeria's participation at the ITU WITSA 2020 meeting
2. COREN Accreditation Resource Person for Information and Communication Engineering
3. Course Developer and Facilitator for the National Open University Of Nigeria
4. External Examiner Elizade University. Ondo state
5. External Examiner Crawford University Ogun State

Postgraduate Examinations:

1. **External Examiner PhD Thesis** CERTAIN INVESTIGATIONS ON PERFORMANCE IMPROVEMENT OF MULTILEVEL INVERTER FED FROM RENEWABLE ENERGY SOURCES. Faculty of Engineering Anna University Chennai **India** 2017
2. **External Reviewer PhD Thesis:** Efficient Stable Channel Allocation with Fault Tolerant Enhanced Query arising in Mobile AD-Hoc Networks. **Faculty of Information and Communication Engineering Anna University India** 2016
3. **External Reviewer PhD Thesis:** Enhanced Multilink for Cluster Based Protection Routing with Byzantine Conformity among ESVM Grouping in MANET. **Faculty of Information and Communication Engineering Anna University India** 2016

4. **External Examiner Master Degree Thesis.** DEVELOPMENT OF A WEB BASED SMART CITY INFRASTRUCTURE FOR REFUSE DISPOSAL MANAGEMENT, Durban University of Technology
South Africa 2016
5. **Chief Examiner PhD thesis Panel of Examiners for Oral defense:** Evaluation and Mitigation of Technical Losses on Power Line: A Case Study of Nigeria 330-kV Network. Covenant University Ota **Nigeria 2016**
6. **Chief Examiner PhD thesis Panel of Examiners for Oral defense:** Development of Nonlinear Control Schemes for Electric Power System Stabilization. Covenant University Ota **Nigeria 2016**
7. **Internal Examiner for PhD proposal:** Analysis and Modeling of Rain Attenuation on Earth Space Link in Southwest Nigeria. Covenant University Ota **Nigeria 2016**
8. **Chief Examiner M.Eng Panel of Examiners for Oral defense:** A Novel Trust Based Algorithm for Securing Autonomous Interactions in Wireless Sensor Networks. Covenant University Ota **Nigeria 2016**
9. **Chief Examiner M.Eng Panel of Examiners for Oral defense:** Development of Attendance System using Online signatures. Covenant University Ota **Nigeria 2016**
10. **Chief Examiner M.Eng Panel of Examiners for Oral defense:** Performance Analysis of Different feeding Techniques for Regular Microstrip Patch Antenna. Covenant University Ota **Nigeria 2016**
11. **Internal Examiner PhD proposal:** Water Alternating Gas Optimization using Intelligent Completions (PhD Petroleum Engineering). Covenant University Ota **Nigeria 2016**
12. **Chief Examiner PhD thesis Panel of Examiners for Oral defense:** Development of a Robust Segmentation Algorithm for Low contrast Human Iris. Covenant University Ota **Nigeria 2015**
13. **Chief Examiner PhD thesis Panel of Examiners for Oral defense:** The Optimization of Generating plants in a Microgrid: The Covenant University Electric Power Network Experience Covenant University Ota **Nigeria 2014**

Research and Development Projects

1. **Design of an Offshore Pipeline Monitoring and Leak Containment Tool.** Presented at the Offshore Technology Conference **Research and Development Showcase Houston 2016**
2. **Design of an Inline Power generating System for Subsea Wellheads and offshore oil and gas production installations.** Presented at the Offshore Technology Conference **Research and Development Showcase Houston 2016**

JOURNAL PAPERS

1. Olabode Idowu-Bismark, **Francis Idachaba** and A. A. A. Atayero Massive MIMO Channel Characterization and Modeling: The Present and the Future. **International Journal of Applied Engineering Research ISSN 0973-4562 Volume 12, Number 23 (2017) pp. 13742-13754**
2. Olabode Idowu-Bismark, **Francis Idachaba** and A. A. A. Atayero. A Survey on Traffic Evacuation Techniques internet of Things Network Environment. **Indian Journal of Science and Technology, Vol 10(33), 10.17485/ijst/2017/v10i33/112749, September 2017**
3. Augustus Ehiremen Ibhaze, Agbotiname Lucky Imoize, Simeon Olumide Ajose, Samuel Ndueso John, Charles Uzoanya Ndujiuba, **Francis Enejo Idachaba.** *An Empirical Propagation Model for Path Loss Prediction at 2100MHz in a Dense Urban Environment.* Indian Journal of Science and Technology **IJST 2017**
4. **Idachaba F.E** and Ibhaze Augustus. *GSM/GPS Assisted Road and Traffic Congestion Detection System.* **International Journal of Applied Engineering Research ISSN 0973-4562 Volume 11, Number 24 (2016) pp. 11610-11613 © Research India Publications**

5. **Idachaba F.E** and Ibhaze Augustus. *Development of a Real Time Road Accident Location and Emergency Alert System*. **International Journal of Applied Engineering Research** ISSN 0973-4562 Volume 11, Number 23 (2016) pp. 11110-11113 © Research India Publications
6. **Idachaba F.E** and Oni.O.O. *GSM Transceiver Design Optimization*. **Asian Journal of Applied Sciences** (ISSN: 2321 – 0893) **Volume 04 – Issue 04, August 2016**
7. **Idachaba F.E** *Monitoring of Oil and Gas pipelines using VTOL type-Unmanned Aerial Vehicles (UAV)*. **SPE Oil and Gas Facilities Journal**. February 2016
8. **F.E Idachaba**, H.E Orovwode, J.O Olowoleni and O.O Oni. Power supply options and suitability Assessment for remote Oil and Gas Production Installations. *International Journal of Emerging Technology and advanced Engineering* .2014. **India**
9. **Idachaba F.E**, *Algorithm for Source Mobile Identification and Deactivation in SMS triggered Improvised Explosive Devices*. Elsevier Procedia Engineering 78 (2014) 96 – 101
10. H .E Orovwode, C.O.A. Awosope , **F. E. Idachaba**, A. U .Adoghe and A. Adelakun *Mitigating Climate Change Through Community-Based Microgrid* *International Journal of Emerging Technology and Advanced Engineering*. IJETAE Vol 4 Issue 4. **India 2014**
11. **Idachaba F.E**. *Remote Operations Implementation: A Tool for Improved HSE Management* *Petroleum Technology Development Journal* Vol. 4 No. 1 January 2014.**Nigeria 2014**
12. **Idachaba F.E**, Ajaja O, Oke-Salako T, Ibioku. A, Odejobi M, Fabiyi A. and Odigwe I.A *Design and Development of Student Data Retrieval System via GSM*. *IOSR Journal of Electronics and Communication Engineering (IOSR-JECE)* .Volume 9, Issue 1, Ver. I (Jan. 2014), PP 64-69 **India 2014**
13. I.A Odigwe, C.I Nnadi, A.F Agetuyi, A.A. Awelewa and **Idachaba F.E**. Development of a software solution for solar-PV power system sizing and monitoring. *International Journal of Renewable Energy Research* **IJRER Vol 3 No3. 2013**
14. **Idachaba F.E** *Optimal Antenna configurations for digital oilfield implementation*. *Advanced Materials Research* Vol. 824 (2013) pp 187-192 Trans Tech Publications, **Switzerland 2013**
15. **Idachaba F.E** and Ogunrinde Ayobami *Review of Remote Terminal Units (RTU) and Gateways for Digital Oilfield Deployments*. *International Journal for of Advanced Computer Science and Applications* **IJACSA Vol2 No8 USA 2012**
16. **Idachaba F.E**. *Current Trends and Technologies in the Oil and Gas Industry*. *International Journal of Emerging Technology and Advanced Engineering*. IJETAE Vol 2 Issue 7.**India 2012**.
17. **Idachaba F.E** and Idachaba M.E *Robust E-Health Communication Architecture for Rural Communities in Developing Countries*. *Engineering Technology and Applied Science Research ETASR* Vol. 2, No. 3, page 237-240. **Greece 2012**
18. **Idachaba F.E** and Edeko F.O. *Rural Mobile Telephony: A VSAT (Satellite) Based Approach*. *The Advanced Materials Research*. Vol. 367 (2012) pp 215-222 Trans Tech publications **Switzerland. 2012**
19. **Idachaba F.E** and Orovwode H.O, *Analysis of a Weaver, Hartley and SAW- filter based image reject architectures for radio receiver design* *The Advanced Materials Research*. Vol. 367 (2012) pp 199-204 Trans Tech publications **Switzerland 2012**
20. **Idachaba F.E** and Edeko F.O. *Low Power Transceiver based Approach to Extending Mobile Communication to the Rural Areas of Nigeria*. *International Journal of Engineering and Technology*. Vol 2 No3 March 2012 **UK 2012**
21. **Idachaba F.E** and Edeko F.O. *Design of a GSM phone booth for low cost rural Communication*. *Journal of Information and Communication Technology* Vol 2, Issue 4, April 2012 **UK 2012**
22. **Francis Enejo Idachaba**. Investigation of the Temperature characteristics of the IN4148 Signal Diode and its suitability for use as a PTC Temperature sensor. *Majlesi Journal of Energy Management*. Vol 1 No3 2012. **Iran**
23. **Idachaba F.E** and Edeko F.O. *Analysis and Development of a low cost GSM Telephone system for a rural area*. *Global Journal of Engineering and Technology*. Vol 4, No 2, (2011) India 165-176 **India 2011**
24. **Idachaba F.E**. *Intelligent Traffic monitoring and hybrid energy systems for BTS OPEX reduction*. *NSE Transactions* **Nigeria 2011**

25. **Idachaba F.E** *Robust Communication Architecture for Remote Operation of Oil and gas production Installations in the Niger delta.* Volume 01 Issue 03 July 2011pp 55-59 Asian Transactions on Engineering Asia.2011
26. **Idachaba F.E** *Design of a GPS/GSM based tracker for the location of stolen items and kidnapped or missing persons in Nigeria.* Vol 6 no 10. October 2011 ARPN Journal of Engineering and Applied Science. **India 2011**
27. **Idachaba F.E.** *Telecommunication Cost Reduction in Nigeria through Infrastructure sharing.* Pacific Journal of Science and Technology Vol 11 no 1 **USA 2010**
28. **Idachaba F.E.***Design of INTEL 8751 microcontroller based system for temperature monitoring and control of thermal process.* The IETE Journal of Research India. Vol 56 (4) July-August page 189-192 **India 2010**
29. **Idachaba F.E.** *Design of a Remote GSM based Datacentre Monitor.* Journal of Electrical Engineering. University "POLITEHNICA" Timisoara, Romania, Faculty of Electrical Engineering. Romania. vol 10 **Romania 2010**
30. **Idachaba F.E** *Strategies for Low Cost Rural Telephony* Pacific Journal of Science and Technology Vol 10 no 1 2009 **USA 2009**

CONFERENCES PAPERS

31. Uyioghosa B. Iyekekpolo, **Francis E. Idachaba**, Segun I. Popoola and Aderemi A. Atayero. *Wireless Sensor Networks: Architecture, Applications, and Challenges.* Proceedings of the International Conference on Industrial Engineering and Operations Management **IEOM** Washington DC, USA, September 27-29, 2018
32. Uyioghosa B. Iyekekpolo, **Francis E. Idachaba**, Segun I. Popoola *Early Flood Detection and Monitoring System Based on Wireless Sensor Network.* Proceedings of the International Conference on Industrial Engineering and Operations Management **IEOM** Washington DC, USA, September 27-29, 2018
33. **Francis E Idachaba.** *Design of a Pipeline Pre-Activation Inspection Robot for Pipeline Tap Detection* SPE Nigerian Annual International Conference and Exhibition **NAICE 2018 Lagos Nigeria**
34. **Francis E Idachaba.** *Wireless Sensor Network System for Coastal Area Monitoring* SPE Nigerian Annual International Conference and Exhibition **NAICE 2018 Lagos Nigeria**
35. Susan Nnadi and **Francis Idachaba.** *Design and Implementation of a Sustainable IOT Enabled Greenhouse Prototype.* **IEEE 5G World Forum 2018 Santa Clara USA**
36. **Francis Idachaba** *Development Of A Rapid Mentoring Scheme For Managing Large Classes In Engineering Departments* 12th annual International Technology, Education and Development Conference **INTED 2018 Valencia Spain**
37. **Francis Idachaba** *Outcome Based Engineering Curriculum Design: A System For Curriculum Streamlining And Graduate Quality Improvement In Engineering* 12th annual International Technology, Education and Development Conference **INTED 2018 Valencia Spain**
38. **Francis E Idachaba** and Esther Wokoma *Development of a Solar-ESP based Wellhead System for Remote Wellhead Operations in Marginal Oilfields* SPE Annual Technical Conference and Exhibition **ATCE 2017 San Antonio USA**
39. **Francis E Idachaba.** *RFID Applications for Asset Monitoring and Multi-Level Asset Tracking.* World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**
40. **Francis E. Idachaba.** *3G-5G Spectrum Bundling: Strategies for Rapid Technology Adoption for the 5G Communication Standard.* World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**
41. **Francis E. Idachaba**, Joseph O.Olowoleni and Augustus Ibhaze *Design of an Automatic Renewable Energy Supply and Switching System.* World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**
42. **Francis E Idachaba**, Joseph Olowoleni, Augustus Ibhaze and Oluyinka Oni. *IoT Enabled Real Time Fish Pond management System.* World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**

43. Oluwadamilola Oshin, Adedoyin Owoniyi, Oluyinka Oni and **Francis Idachaba**. *Programming of NFC Chips: A University System Case Study*. World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**
44. Oluwadamilola Oshin, Sebastian Okhanigbe, Oluyinka Oni and **Francis Idachaba**. Development of a Wearable for Remote Health Monitoring in Infants. World Congress on Engineering and Computer Science. **WCECS 2017. San Francisco USA**
45. **Francis E Idachaba** *Nigerian Content Development in the Oil and Gas Sector: The Role of the Nigerian Academia*. SPE Nigerian Annual International Conference and Exhibition **NAICE 2017 Lagos Nigeria**
46. Oni O.O and **F.E Idachaba**. *Review of Selected Wireless System Path Loss Prediction Models and its Adaptation to Indoor Propagation Environments*. The International Multi Conference of Engineers and Computer Scientists **Hong Kong IMECS 2017**.
47. **F.E Idachaba**. *Spectrum Bundling Architectures for Increased Traffic Capacity in Mobile Telecommunication Networks*. The International Multi Conference of Engineers and Computer Scientists **Hong Kong IMECS 2017**.
48. **Idachaba F.E** *5G Networks: Open Network Architecture and Densification strategies for Beyond 1000x Network Capacity Increase*. Future Technologies Conference **San Francisco FTC 2016 USA**
49. **Idachaba F.E** and Idachaba M.E. *Design of a Real-Time Epidemic Alert System for Cross Border Disease Control and Epidemic Management*. Qatar Annual Research Conference **ARC 2016 Qatar**
50. **Idachaba F.E** and Idachaba M.E *Development of an Automated, Real-Time Health Monitor and Emergency Alert system for the Elderly*. Qatar Annual Research Conference **ARC 2016 Qatar**
51. Nsikan Nkordeh, Iwu Lawson **Francis Idachaba** and Ibinabo Bob-Manuel. *Design and Implementation of a Dual Band Mobile Phone Jammer*. Presented at the World Congress on Engineering and Computer Science 2016 Conference **San Francisco USA**
52. Ibhaze A.E, Eleanor E.C and **Idachaba F.E**. *E-Health Monitoring system for the Aged*. Presented at the 2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech).**Mauritius 2016**
53. Ibhaze A.E, Ajose S.O, Atayero A.A and **Idachaba F.E** *Developing Smart cities through Optimal Wireless Mobile Networks*. Presented at the 2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech) **Mauritius 2016**
54. Gabriels Rejoyce, Oluyinka Oni, Oluwadamilola Oshin and **Francis Idachaba**, Nsikan Nkordeh. *Development and Implementation of a Smart Medical Cabinet using RFID Technology in Developing Countries* Proceedings of the World Congress on Engineering 2016 Vol I WCE 2016, June 29 - July 1, 2016, **London, U.K.**
55. Nsikan Nkordeh, **Francis Idachaba**, Ibinabo Bob-Manuel, Oluyinka Oni. *Received Signal Strength Measurement; Suboptimal Handing-over*. Presented at the World Congress on Engineering 2016 Conference **UK**
56. Nsikan Nkordeh, **Francis Idachaba**, Ibinabo Bob-Manuel, Oluyinka Oni. *Implementing Orthogonal Frequency Division Multiplexing Using IFFT/FFT*. Presented at the World Congress on Engineering 2016 Conference **UK**
57. Steve-Essi, Onyinyechi F. and Idachaba, F.E. (2016) Food Security and Technology Development in Africa. In: 3rd International Conference On African Development Issues (**CU-ICADI**), **May 9- May 11 2016, Covenant University, Ota, Nigeria**
58. Ibhaze, Augustus E. and Ajose, Simeon O. and Atayero, A. A. and **Idachaba, F.E**. (2016) Propagation Model Optimization Based on Measurement from Macrocell Sites in Ikorodu-Epe, South-Western Nigeria. In: 3rd International Conference On African Development Issues (**CU-ICADI**), **May 9- May 11 2016, Covenant University, Ota, Nigeria**
59. **Idachaba F.E**. *Wireless Sensor Network System for Coastal Area Monitoring*. Presented at the **Offshore Arabia 2016** conference **Dubai UAE**.
60. **Idachaba F.E** *UAV based Oil spill and crude oil tanker route monitoring systems* Presented at the **Offshore Arabia 2016** conference Dubai UAE.
61. **Idachaba F.E**. Gas-Driven Power Generation System: The Niger Delta Contribution to the National Grid

Presentation at the **Offshore Technology Conference OTC 2016** Houston USA

62. **Idachaba F.E.** *Design of an Offshore Pipeline Monitoring and Leak Containment Tool.* **Offshore West Africa 2016** conference Lagos Nigeria
63. **Idachaba F.E.**, Mbeh K.E, Oshin O.I and Oni O.O. Webportal Applications: Automated Student Clearance Portal. World Congress on Engineering **WCE 2015 London**
64. **F.E Idachaba** and O.O Oni. Low power VTOL UAV Deployments for Urban Area Monitoring. World Congress on Engineering **WCE 2015 London**
65. O.O Oni, **F.E Idachaba** and N.S Nkordeh GSM-LTE Migration: Deployment issues for operators in developing countries. World Congress on Engineering **WCE 2015 London**
66. O.O Oni, **F.E Idachaba** .I.O Oshin and N.S Nkordeh A comparative review of Improvements in LTE. World Congress on Engineering **WCE 2015 London**
67. Oshin O. I., Oni O. O. and **Idachaba F. E.** *Web-Based Portal For Vehicle License Management.* World Congress on Engineering **WCE 2015 London**
68. O. I. Oshin, C. Ndujiuba and **F. E. Idachaba.** 3GPP LTE: The Relevance of Interworking. World Congress on Engineering **WCE 2015 London**
69. H.A. Ifijeh, **F.E. Idachaba**, and I.B. Oluwafemi. Performance Evaluation of the Quality of VoIP over WLAN Codecs. .World Congress on Engineering **WCE 2015 London.**
70. Nsikan Nkordeh, **Francis Idachaba**, Oluyinka Oni. Microstrip Patch Antenna: Comparing Performance of a Rectangular and a Circular Patch At LTE, Bluetooth and GSM Frequencies World Congress on Engineering **WCE 2015 London**
71. **Idachaba F.E.** *Real Time H2S Monitoring of Oil and Gas production facilities* Presented at the 4th Abu Dhabi International Research and Development Conference and Exhibition. **ADRAC 2015 Abu Dhabi. United Arab Emirates**
72. **Idachaba F.E** and Oni.O.O. *Development of a Bluetooth-Based Contactless Automated Attendance Capture System for Large Halls and Auditoriums.* Presented at the International Conference on African Development Issues **ICADI 2015 Ota Nigeria.**
73. **Idachaba F.E.**, *Unmanned Aerial Vehicles and Dynamic Pipeline Pressure Profiles: Tools for Oil-Spill Detection and Localization.* Abu Dhabi International Petroleum Conference and Exhibition **ADIPEC 2014**
74. **Idachaba F.E.** *Robotics and the Oil and Gas Production Process: Right Technology, Right Timing* Abu Dhabi International Petroleum Conference and Exhibition **ADIPEC 2014**
75. **Idachaba F.E.**, *Development of a Self Configuring Mesh Network Architecture for Digital Oilfield Implementation.* SPE National International Conference and Exhibition **Nigeria NAICE 2014**
76. **Idachaba F.E.**, *Exception Based Monitoring of Oil and Gas pipelines using VTOL type-Unmanned Air Vehicles (UAV).* SPE National International Conference and Exhibition **Nigeria NAICE 2014**
77. **Idachaba F.E.**, *Industry – Academia Collaborations. The Shell Sabbatical Model .*SPE National International Conference and Exhibition **Nigeria NAICE 2014**
78. **Idachaba F.E.**, Okuns G., Wokoma. E, Awobamise B. *Remote Pipeline Pressure Monitoring Using Low Power Wireless Transmission.* SPE National International Conference and Exhibition **Nigeria NAICE 2014**
79. Alatishe Adeyemi, Adu Oluwadamilola, Atayero Aderemi, **Idachaba Francis** *A Performance review of the different path loss models for LTE network planning* **World Congress on Engineering London July 2014**
80. Oni, Oluyinka O., **Idachaba, F.E** *LTE Networks: Benchmarks, Prospects and Deployment Limitation* **World Congress on Engineering London July 2014**
81. Nkordeh, Nsikan Samuel, **Idachaba F.E.**, Yinka Oni *LTE Network Planning Using The Hata-Okumura And The Cost-231 Hata Pathloss Models* **World Congress on Engineering London July 2014**
82. J.O Onaolapo, **Idachaba F.E** , Badejo J, Odu T and Adu O.I. *A simplified overview of Text-To-Speech synthesis* **World Congress on Engineering London July 2014**
83. Oluwadamilola I. Adu, **Francis E. Idachaba**, Adeyemi A. Alatishe. *Refarming 1800MHZ GSM spectrum to LTE: The effects on coverage based on pathloss estimation .* **World Congress on Engineering London July 2014**

84. H.E Orovwode, A.O. Adegbenro, C. O. A. Awosope and **F.E Idachaba** .*Capacity Integration into a microgrid, a Tool for Electrical Energy Supply Cost Reduction in Nigeria- Covenant University as a Case Study*. **World Congress on Engineering London July 2014**
85. **Idachaba F.E**, Ike D.U and Orovwode H.E. *Future Trends in Fiber Optics Communication*. **World Congress on Engineering London July 2014**
86. Temitope O. Takpor and **Francis E. Idachaba** *Analysis and Simulation of LTE Downlink and Uplink Transceiver*. **World Congress on Engineering WCE July 2014**.
87. **Idachaba F.E** and Tommy U.S. *RFID Laptop Monitoring and Management System* **World Congress on Engineering London WCE 2014**
88. **Idachaba F.E** *Broadcast Television: A Tool for Rural E-Learning Deployment*. **8th International Technology, Education and Development Conference. INTED 2014 Valencia**
89. **Idachaba F.E** and Wokoma E. *Project Management, Local Content and Value Delivery* .**Offshore Technology Conference Houston OTC 2014 USA**
90. **Idachaba F.E**, *Algorithm for Source Mobile Identification and Deactivation in SMS triggered Improvised Explosive Devices*. **Humanitarian Technology Conference: Science, Systems and Global Impact 2014, HumTech2014 Conference. Boston USA 2014**
91. **Idachaba F. E** *Design of an AUV Deployed Pipeline Leak Containment system for offshore Pipeline Leak* **Offshore Arabia Conference Dubai 2014**
92. **Idachaba F.E** *Design of an Autonomous Pipeline Surface Inspection Robot for Offshore Pipeline Monitoring* Presented at the **SPDC- Pipeline Association of Nigeria Conference Port Harcourt 2013**
93. **Idachaba F.E** *Unmanned Air Vehicle (UAV) deployment for Wide Area Pipeline Monitoring* Presented at the **SPDC- Pipeline Association of Nigeria Conference Port Harcourt 2013**
94. **Idachaba F.E** *The Flipped Classroom and Open Courseware: Tools for Improving the Quality of the Nigerian Graduate*. **5th African Regional Conference on Engineering Education ARCEE Nigeria 2013**
95. **Idachaba F.E** Wokoma E., Okuns. G, Brown C. Walker I. *Fiber Optic based Pipeline Oil and Gas Leak and Intruder Detection System with Security Intervention Plan*. Society of Petroleum Engineers National Annual International Conference and Exhibition NAICE 2013 Lagos **SPE 167537. Nigeria. 2013**
96. **Idachaba F.E** *Design of an Inline Power Supply System for Remote Oil and Gas Installations*. **15th Abu Dhabi International Petroleum Conference and Exhibition ADIPEC 2012 SPE 162433 Abu Dhabi 2012**.
97. **Idachaba F.E** *Typical Antenna configurations for digital oilfield implementation*. Fourth International conference on Engineering Research and Development ICERD 2012. **Nigeria 2012**
98. **Idachaba F.E** Okuns G, Oluwatoyin F, Amiesimaka T, Brenan M and Hawrylak. *Renewable power supply option for Smartfields implementation in oil and gas production installations in the Niger Delta*. Society of Petroleum Engineers National Annual International Conference and Exhibition NAICE 2012 Lagos **SPE 163012 Nigeria. 2012**
99. Wokoma .E, Okuns .G, **Idachaba .F.E** Edghill .P, Pickburn .A, Ashion .O *Total Asset Surveillance & Management*. Society of Petroleum Engineers National Annual International Conference and Exhibition NAICE Abuja **SPE 150813. Nigeria 2011**.
100. **Idachaba F.E** and Idachaba. M.E *Development of a communication architecture for E-Health service delivery to rural communities in developing countries*. IST-Africa conference. **Botswana 2011**.
101. Majekodunmi T.O and **Idachaba F.E**. *A Review of the Fingerprint, Speaker Recognition, Face Recognition and Iris Recognition based Biometric identification technologies*. World Congress on Engineering Conference. **WCE London 2011**.
102. **Idachaba F.E** and Edeko F.O. *Rural Mobile Telephony: A VSAT (Satellite) based Approach*. International Conference on Engineering Research and Development (ICERD) University Of Benin Edo State **Nigeria.2010**
103. Orovwode H.E and **Idachaba F.E**. *Web based automation system for electrical load control* International Conference on Engineering Research and Development (ICERD) University Of Benin Edo State **Nigeria.2010**

104. **Idachaba F.E** and Orovwode H.O, *Comparative analysis of a weaver, Hartley and saw- filter based, image reject architectures for radio receiver design* International Conference on Engineering Research and Development (ICERD) University of Benin Edo State **Nigeria.2010**
105. **Idachaba F.E** *Capacity Building Strategies for the Nigeria Educational System* Society of Petroleum Engineers National International Conference and Exhibition Abuja **SPE 128338, Nigeria. 2009.**
106. **Idachaba F.E.** *Design of a GPS/GSM based Tracker for the location of stolen items and kidnapped or missing persons in Nigeria.* National Union of Radio Science National Conference at Redeemers University **Nigeria 2009**
107. **Idachaba F.E** and Ekong V.E *Implementation of a Low Power Sensor using the 1N4148 signal diode* International Conference and Workshop on 3G GSM and Mobile computing: and emerging growth engine for national development. Covenant University Ota, Ogun State **Nigeria. 2007**
108. **Idachaba F.E** *Design of a GSM phone booth for rural mobile communication.* International Conference on Engineering Research and Development (ICERD) University of Benin Edo State **Nigeria.2006**
109. **Idachaba F.E.** *Low cost approach for extending mobile communication to the rural areas of Nigeria.* International Conference on Engineering Research and Development (ICERD) University of Benin Edo State **Nigeria 2006.**

PUBLICATIONS IN BOOK CHAPTERS

110. Temitope O. Takpor and **Francis E. Idachaba** *Analysis and Simulation of LTE Downlink and Uplink Transceiver.* **World Congress on Engineering WCE July 2014.**
111. Nsikan Nkordeh, **Francis Idachaba**, Oluyinka Oni and Ibinabo Bob-Manuel. *Microstrip Patch Antenna: Performance Comparison for Rectangular and Circular Shaped Patch.* **Transactions on Engineering Technologies. 2016**
112. O.O Oni, **F.E Idachaba** .I.O Oshin and N.S Nkordeh *A comparative review of Improvements in LTE.* **IAENG Transactions on Engineering Science 2016**

MAGAZINE PUBLICATIONS

1. **Idachaba F.E.** *Telecommunication Cost Reduction in Nigeria through Infrastructure sharing.* **The Nigerian Engineer.** Official Journal of the Nigerian Society of Engineers. May 2010
2. **Idachaba F.E** *Spectrum Bundling. Increasing traffic capacity in mobile networks.* **Telecoms buyers Guide.** January 2011

BOOKS

1. Low cost GSM Telephone system for a rural area. [LAP LAMBERT Academic Publishing](#) (2012-06-26) - ISBN-13: 978-3-8473-1462-2
2. Internet Architecture and Communication CIT461. Developed for the National Open University of Nigeria 2011. Available online www.nou.edu.ng/noun/NOUN_OCL/pdf/pdf2/CIT%2520461Text.pdf
3. Business Communications and Networks .DAM 361. Developed for the National Open University of Nigeria. 2010. Available online: www.nou.edu.ng/noun/NOUN_OCL/pdf/pdf2/DAM 361.pdf
4. Analogue and Digital Electronics Text. CIT 236 Developed for the National Open University Of Nigeria. 2009 Available online: www.nou.edu.ng/noun/NOUN_OCL/.../CIT%20236-MAIN%BODY.pdf

Editorial Experience

1. Reviewer. World Telecommunication Symposium US 2018
2. Reviewer Elsevier Journals
3. Reviewer Arabian Journal of Geosciences: Springer Journals
4. Reviewer Journal of Microwaves, Optoelectronics and Electromagnetic Applications
5. Reviewer International Journal of Energy Research. Thomson Reuters Journal

- 6. Technical Committee Member ICAST 2014
- 7. Technical Committee Member. International Conference on Sustainable Environment and Agriculture.
ICSEA 2016 San Francisco

UNIVERSITY EXPERIENCE

December 2017 to Date

PROFESSOR COMMUNICATION ENGINEERING

Department of Electrical and Information Engineering
Covenant University Ota .Ogun State

**Director Academic Planning
Covenant University Ota**

2017 to date

August 2015 to November 2017

ASSOCIATE PROFESSOR COMMUNICATION ENGINEERING

Department of Electrical and Information Engineering
Covenant University Ota. Ogun State

August 2014 to 2016

Head

Department of Electrical and Information Engineering
Covenant University Ota. Ogun State
Member University Senate

2014 to 2016

August 2013 to July 2015

SENIOR LECTURER,

Department of Electrical and Information Engineering
Covenant University Ota

February 2013 to May 2013

RESEARCH FELLOW

Massachusetts Institute of Technology USA

(Empower The Teachers fellowship Sponsored by Total/Google and MIT)
Achievements

- 1. Updated curriculum in Analogue Electronics to conform with current best practices
- 2. Undertook a Graduate Teaching certificate course to learn new teaching methods
- 3. Facilitated the Inclusion of Covenant University in to the MIT OCW Mirror program and the deployment of the MIT OCW in Covenant University

Department of Electrical and Information Engineering

Covenant University Ota,

Ogun state

Nigeria

1. LECTURER I

February 2010 to July 2013

2. LECTURER II

March 2006 to February 2010

3. ASSISTANT LECTURER

Jan 2005 to Feb 2006

Department of Electrical and Information Engineering

Federal Polytechnic Idah Kogi State

Nigeria

1. **LECTURER II** **Jan 2004 to Dec 2004**
2. **LECTURER III** **Jan 2002 to Dec 2003**
3. **ASSISTANT LECTURER** **Feb 1999 to Dec 2002**

MEMBERSHIPS OF UNIVERSITY/ DEPARTMENTAL COMMITTEES

1. Chairman Departmental Budget committee
2. Chairman Departmental Final year project committee
3. Chairman Departmental Accreditation Committee (Computer Engineering Program)
4. Chairman Departmental Quality Assurance committee
5. Member Covenant University Research and Development committee
6. Member Covenant University Equipment and Usage committee
7. Member Covenant University Strategic plan drafting committee
8. Member Departmental Finance committee
9. Member Departmental Research and Curriculum Development committee
10. Member College Curriculum Review Committee
11. Member Departmental Panel of Examiners for PhD proposals
12. Member Covenant University Scholastic Aptitude Screening committee
13. Member School of Engineering Quality Assurance Committee
14. Member College of Science and Technology Quality Assurance Committee
15. Member Covenant University Vision 1 of 10-in-10 committee

KEY SPECIALIZATIONS AND SKILLS

1. Remote Operations Capability Development and Deployment
2. Oil and Gas Pipeline Intruder detection development using Distributed Fiber Optics Sensor technologies.
3. Oil and Gas pipeline leak detection development using Distributed Fiber Optic sensor technologies
4. Electrical Engineering design for Oil and Gas Installations
5. Telecommunication Engineering Design for oil and Gas Installations
6. Digital Oilfield Communication Architecture design
7. Stakeholder Engagement and Interface Management.
8. Research and Development

INDUSTRY EXPERIENCE

October 2010 to September 2012

SABBATICAL FELLOWSHIP

SHELL PETROLEUM DEVELOPMENT COMPANY

RESEARCH ADVISOR

Remote Operations Capability Implementation Team

Job descriptions and Contributions

Health Safety Security and Environment (HSSE)

1. Active participation in monthly HSE meetings

Project Management

Project Engineer

1. *Two well and One pipeline Manifold Automation Project Using the VMonitor RTUs and Gateway*
Project Synopsis:

The project involves the implementation of remote monitoring and control of wellhead valves and a pipeline manifold from the office domain using wireless transmission systems and the deployment of remote power using thermoelectric generator and battery bank configuration.

Achievements/ value addition

1. Organized an opportunity reframing workshop to refocus the project
2. Developed and sent out the Project Controls Assurance Plan (PCAP) for reviews
3. Organized the independent design review for the project and the comments are being closed out
4. Organized the systems integrations test (simulation) for the project
5. Coordinated regular stakeholder engagement sessions and was able to get the different OEMs and the contractors to work together thereby resolving the interface issues that had delayed the project.
6. Organized the HAZOP for the project

2. *Wireless pipeline pressure monitoring project (Onramp)*

Project Synopsis:

The project involves the implementation of remote pipeline pressure monitoring from the office domain using wireless transmission systems

Achievements/ value addition

1. Technical review of the specifications of the deployed technology.
2. Participated in review sessions with the OEM and proffered solutions to extend the battery life of the system which was found to be a limitation in the phase 1 deployment

3 *Intruder detection trial*

Project Synopsis:

The project involves the trial of intruder detection along an SPDC oil pipeline right of way using fiber optic cables and the Schlumberger Integriti distributed vibration system. The results were monitored from the office domain using wireless transmission systems

Achievements/ value addition

1. Review of the installation report and specifications
2. Development of the report into a paper (Total Asset Surveillance) presented at the SPE conference in Abuja in August 2011
3. Technical consultant for the Schlumberger Integriti project

4. *Oil and Gas Leak detection trial project*

Project Synopsis:

The project involves the implementation of Remote intruder detection, Oil and Gas leak detection from pipelines in swamp locations using Fotech's HELIOS interrogator unit and telecom grade fiber optic cables

Achievements/ value addition

1. Reviewed different presentations made by the OEMs on the capability of their leak detection systems
2. Successful detection of the oil and gas leak detection from different orifices in the buried pipeline in a swamp location.
3. Served as Research Lead for the Pipeline Oil Leak Detection Technology Trial

5. *Intruder detection and leak detection deployment project*

Project Synopsis:

The project involves the deployment of intruder and leak detection along a 50km oil pipeline using Fotech's HELIOS interrogator unit and telecom grade fiber optic cables

Achievements/ value addition

1. Preparation of the project initiation plan and the execution strategy
2. Coordination of the contractor for the deployment of the project.
3. Results presented at the SPE international conference in Nigeria (NAICE2013 where it won an award)

6. *Nembe and Agbada Smart well Implementation team*

Achievements/ value addition

1. Development of the Communication architecture for the surface and subsurface equipment
2. Technical consultant for the Remote Operations Capability Implementation for the Smart well project

Research and Development

Undertook the following research with reports presented.

1. Challenges with remote operations and Recommendations for improving its deployment.
2. Review of Vmonitor Installations with the view to resolving its transmission challenges
3. Power supply Options for remote locations

Facility Upgrade (FU) Team Assignments (Design Document Reviews)

1. Review of Electrical, IT and Data communication infrastructure and Telecommunication designs for different Facility Upgrade projects.
2. Review of the Electrical scope of work and the Vmonitor installation design

Jan 1998 to Dec 1998 BUCO Steel Company, Owerri, Imo State. Nigeria

(NYSC) Factory Engineer

1. Maintenance of the control panels for the wire drawing Machines
2. Maintenance of the overhead cranes, cutting machines and grinding machines

Trainings and Workshops Attended:

1. **Training workshop on Intellectual Property Rights (IPR) sensitization for Chief Executive Officers of Parastatals of the Federal Ministry of Science and Technology (FMST).** Organized by the **National Office For Technology Acquisition and Promotion (NOTAP) 20th September 2016 Abuja**
2. **Graduate Teaching Certificate** Course organized by the Teaching and Learning Lab Massachusetts Institute of Technology(MIT) USA .2013
3. **Digital Oilfield Workshop** organized by OnRamp USA. Nigeria **Abuja 2012**
4. **Hazardous Area Awareness** course organized by Shell Petroleum Development Company Portharcourt **NIGERIA June 2012**
5. **Smart well Training – Fundamentals and Practical Application.** Organized by Halliburton. **NIGERIA February 2012**
6. **Digital Oilfield Workshop** organized by Vmonitor USA. Nigeria **Lagos 2011**
7. **Vmonitor Wireless System Configuration, Operation and Maintenance Training** organized by SHELL/Vmonitor LLC **NIGERIA November 2011.**
8. **Introduction to Distributed Temperature Sensing (DTS).** Society of Petroleum Engineer. SPE Continuing Education Course. Keystone, Colorado. **USA. 2nd August 2011**
9. **Distributed Fiber Optic Monitoring for Well and Reservoir Management.** Society of Petroleum Engineers Technical Workshop. Keystone Colorado**USA.3rd-5th August 2011**
10. Shell Smartconnect Training organized by SPDC **NIGERIA 2011.**
11. **Helicopter Underwater Escape Training and Survival at Sea.** Organized by Shell Petroleum Development Company and facilitated by Tollmann Offshore Training Center in Portharcourt Certificate number 10/12118.74 **NIGERIA 2010**
12. **Corning Optical Fiber Seminar on Fiber Optics at Nigeria Com 2010:** Organized by Corning Optic Fiber **NIGERIA September 2010**

13. **Subsea Awareness Course:** Organized by the Society for Underwater Technology. Sub Saharan African Branch .Lagos **NIGERIA. 15th -19thMarch 2010**
14. **ILabs Awareness Workshop for Tertiary Institutions:** Organized by the OAU-MIT Collaboration at the Obafemi Awolowo University Ile-Ife **NIGERIA November 2007**

REFEREES

Available on Request



Professor Francis Enejo Idachaba
Professor of Communication Engineering