**LIST OF PUBLICATIONS**

**By**

**Ogunyemi, J.**

**Department of Electrical/Electronic Engineering,**

**Federal Polytechnic Ilaro.**



**a) Title:** Assessment of Growing Trend of Non-Linear Devices in Electrical Power System’s Applications.

**b) Conference Paper:**

**c) Abstract:**

The application of electronics non-linear devices in the utilization of electrical energy has continued to witness unprecedented growth. To conserve energy, reduce cost and environmental pollution; electronics solutions are employed globally. However, the negative impact of these devices on the power system as a whole has been attracting attention. This is because they degrade the quality of the power network by distorting the waveforms. This paper highlights this growing trend and call for concerted efforts to mitigate the problems. As a case study, a survey was carried out at the Information Technology Centre (ICT) of the Federal Polytechnic Ilaro Ogun State, an environment dominated with the non-linear devices with a view to ascertain the level of penetration of these devices in the distribution system. The result shows that the percentage of non-linear loads is increasing and calls for attention. Adequate measures to mitigate their impacts are highlighted.

Key Words: Non-linear devices, Harmonics, Power quality, Distribution network, Standards

**d) Name of Author:** **Ogunyemi, J**.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 183 Proceedings of the 16th iSTEAMS Multidisciplinary Research Nexus Conference. The Federal Polytechnic, Ilaro, Nigeria –

**g) ISSN:**

**h) Official URL:** www.isteams.net

**i) Volume No: 16**

**j) Issue No: Series 1**

**k) Pages: 183-190**

**l) Year, Month and Day of publication:** 2019

**a) Title:** Promoting Energy Efficiency Awareness and Preparedness in Nigeria: Federal Polytechnic Ilaro as Case Study.

**b) Conference Paper:** 4th School of Engineering National Conference, Federal Polytechnic Ilaro.

**c) Abstract:**

In the Federal Polytechnic Ilaro campus, electrical energy is utilized in many areas and it’s insufficient in distribution. Thus it should be ordinarily used judiciously. However, it is found to be expended extravagantly within the community. This study is an awareness campaign on energy efficiency on the Federal Polytechnic, Ilaro campus. A survey of the Federal Polytechnic community was carried out to identify areas where energy can be saved. Energy efficiency opportunities were identified on the polytechnic campus and this includes offices, corridors, walkways, water pumping centres, lecture rooms and theatres and so on. Practical suggestions were proffered on achieving energy efficiency. These include use of human efforts and application of technical devices such as occupancy sensors, float switches and replacement of certain energy-inefficient devices. Energy policy is suggested to be put in place in the Federal polytechnic Ilaro community. People should be involved in implementing the policy. This will greatly reduce the total energy consumption on the polytechnic campus. The practices suggested in this study can be extended to residential and commercial areas around the country.

**Keywords:** Energy efficiency, Federal Polytechnic Ilaro, energy devices, energy wastage, energy policy.

**d) Name of Authors**: Adetona, Z.A. and **Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronic Engineering

**f) Name of Journal Publisher**:

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 2019, November25th -28th.

1. **a) Title:** Distribution Network Power Quality Modelling: Problems and Solutions.

**b) Conference Paper:** Nigerian Society of Engineers’ National Conference, Exhibition and Annual General Meeting, Abuja.

**c) Abstract:**

Beyond reliability of any power supply network, one of the most important utility needs in modern time is an actual quality of power being delivered to the consumers. Smart grid, which is the emerging future grid, requires not only reliable but also high power quality network. Power quality studies involve data gathering to model a distribution network under study. As efforts are made to improve the existing weak electric power network in Nigeria characterized by low reliability, the quality of power being delivered to the consumers requires adequate modelling as well. More often the sets of information required for this are not readily available and may pose problems for adequate design model. This paper examines the foregoing challenges involved in modelling the distribution network and proffers appropriate solutions. Characterizing power quality levels in distribution systems helps utility better respond to electric power consumers’ needs for higher power quality as part of preparations for a smart grid.

**d) Name of Authors**: **Ogunyemi, J, & Adetona, Z.A.**

**e) School/Department**: School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher**: Nigerian Society of Engineers

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication**: 21st- 25th, Nov. 2018

**m) Funder**

1. **a) Title:** Installation of 3000W Solar Powered Inverter in a Laboratory: Case Study of Students’ Learning Experience

**b) Conference Paper:**

**c) Abstract:**

One of the ways of addressing under development in Nigeria is to tackle the twin problems of manpower development and inadequate power supply. Technological education therefore needs to be diversified to adequately address these problems. This paper presents a methodical approach of teaching students on solving power supply problem through a practical installation process involving group of mobilized and well-instructed students. The set of students concerned were given proper orientation on the project and specific tasks to be carried out such as load audit, estimation of power requirements, pricing and installation procedures. For easy comprehension, the system was divided into the following major parts- solar panels section, battery section, and charge controller and inverter section. Other areas such as protective parts and cabling were adequately designed. The pricing and procurement were carefully done for economical purposes. The installation was carried out under the supervision of experienced staff. The system was then powered, tested with loads in the laboratory and performed very well to the delight of the students. The project not only solve power supply problem in the laboratory but also gave the students practical exposure of solving employment and electricity power supply.

**d) Name of Authors:** **Ogunyemi, J.** & Fagbuaro, O.E.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** Academic Staff Union of Polytechnics (ASUP) Zone C National Conference, Federal Polytechnic Ado-Ekiti,

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 27th – 30th August, 2018.

1. **a) Title**: Development of Locally Fabricated Food Processing Machine.

**b) Conference Paper:** First International Conference, Federal Polytechnic Ilaro.

**c) Abstract:**

As the world is tending toward automation systems, the need for the replacement of human energy in Africa kitchen with automatic machines to eliminate the tedious, laborious and time consuming indigenous process of preparing solid food cannot be overemphasized. This paper presents a locally designed and fabricated solid food processing machine capable of producing foods like amala, eba, semo etc. The inputs to the machine are water at room temperature and raw solid food ingredient (yam flour, garri, semo, etc.) at a specific time. The water is heated to its boiling point by a 1 kW heater with the temperature monitored by LM 35 temperature sensor when the ingredient is added. The mixture is handled by the electric motor which stirs it for some time to desired texture. The stirrer runs at slow speed with the aid of gear reduction technique. The output which is succulent solid food is manually ejected by pushing the ejecting rod forward at the output. The machine was constructed and tested and the performance showed that the concept can work satisfactorily if improved upon.

**d) Name of Authors:** Ogunyemi, J., Fagbuaro, O.E., Adetona, Z. A., Adedokun, A.

**e) School/Department**: School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher**: First International Conference, Federal Polytechnic Ilaro.

**g) Year, Month and Day of publication**: 2018, Nov. 5th -8th.

1. **a) Title:** Investigation into a Distribution Network Energy Utilization: Ilaro Community as Case Study.

**b) Conference Paper**

**c) Abstract:**

Energy audit, with emphasis on utilization, is an inspection, survey and analysis of energy flow for energy conservation in a building, system or process to reduce the amount of energy input into the system without negatively affecting the output. Most of the efforts to address the challenges of poor energy availability are focused on generation and transmission with less attention paid to utilization. This work investigated the utilization of electricity in residential areas of a power distribution network with the aim of providing measures to minimize waste and cost of electricity. The methodology involved the use of data from electricity consumers about electricity consumption vis-à-vis the type of the building, electrical appliances in the building and their billing methods. Heating appliances take 58 %, motorized equipment 21 %, ICT equipment 11 % and lighting devices 10 %. Replacing incandescent lamps with ESLs can save 4.13 % energy. If government can proscribe incandescent lamps, a saving of 4.13-9.29 % can be achieved. If consumers switch to more energy-efficient motorized appliances, another 21% of energy shall be saved. A government policy mandating the use of prepaid meter billing will greatly conserve energy as it engenders energy-saving culture in consumers.

Keywords: Energy audit, electrical loads, ESL, Energy utilization, energy management.

**d) Name of Authors: Ogunyemi, J.** and Adetona, Z. A.

**e) School/Department: Electrical/Electronic Engineering**

**f) Name of Publisher:** The Nigerian Institution of Electrical and Electronics Engineers (NIEEE) Proceedings of The International Conference and Exhibition on Power and Telecommunications ICEPT 2017 National Engineering Center, Abuja, Nigeria.

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages: 83-94**

**l) Year, Month and Day of publication:** 2017. 9th – 13th October

**m) Funder: Tertiary Education Trust Fund (Tetfund)**

1. a) **Title**: Temperature Controlled Oven Using PID Controller.

b) **Conference Paper**

**c) Abstract**

The need to regulate the temperature of an oven automatically cannot be overemphasized. This is to improve the efficiency of the baking process and reduce the waste of the baking materials due to the incessant heat application. This paper presents the design and implementation of a Proportional Integral and derivative (PID) controlled oven which comprises a sensor, PID controller, heating element, a timer, solid-state relay and the oven. The system allows a user to set a temperature that should be maintained for a fixed period during which the dough is expected to be baked. With the help of a PID controller and solid-state relay, the heating element is activated for the set period and switches off when the time elapsed. The system is found to be helpful as baking is simplified and the cost of electricity consumed is greatly reduced.

Keywords: PID controller, solid-state relay, sensor, baking process.

**d) Name of Authors:** Abdulhamid, I. G. and **Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 4th School of Engineering National Conference, Federal Polytechnic Ilaro.

**l) Year, Month and Day of publication:** 25th to 28th, November 2019

**a)** **Title:** An Overview of Smart Grid: A Necessary System for Nigerian Today and Future Electricity.

**b) Conference Paper/ Journal Paper**

**c) Abstract:**

**d) Name of Authors:** Mbamaluikem, P.O. Aiyelabowo, O.P. & **Ogunyemi, J.**

**e) School/Department: School of Engineering/Electrical/Electronics Engineering**

**f) Name of Publisher:** 3RD School of Engineering National Conference, Federal Polytechnic Ilaro.

**l) Year, Month and Day of publication:** March 7-10, 2016.

1. **a) Title:** Optimization of Maximum Achievable Bit rate of a Next Generation Passive Optical Network.

**b) Conference Paper:** 3RD School of Engineering National Conference, Federal Polytechnic Ilaro.

**c) Abstract:**

Fiber optic is a media used in communication to propagate light through a glass or waveguide. The present bit rate of the next generation optical network can still be optimize at shorter fiber length as commonly practice in fiber network in developing nation. Optimization will allow user to connect at higher data bit rate. In this study a model was developed to optimize the maximum bit rate that a fiber link can carry at shorter distance than specify by the international telecommunication union standard (ITU). The model used optisystem simulator for a range of 10Km fiber link distance commonly found on campus fiber links in developing nation. Two common next generation model was developed for time wave division multiplexing along with 10 Gigabit passive optical network (XGPON) respectively. The data obtained shows that more data bit rate can be achieved at shorter fiber link distance for each model within the acceptable bit error rate (BER)of 10-9. The benefit of the result if employed during practical deployment at such distance will optimize maximum bit rate which will lead to better internet or data service delivery when used for information and communication technology (ICT) using fiber optic as a media for communication.

Keywords: Bit, Error, Rate, Simulator, Passive, Optical, Network, Fiber, Optic.

**d) Name of Authors:** Ajibodu, F. A., Adetona, Z. A. &Ogunnyemi, J,

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 3RD School of Engineering National Conference, Federal Polytechnic Ilaro.

**l) Year, Month and Day of publication:**

**a) Title:** Development of Microcontroller Based Led Dot Matrix For Information and Communication Display.

**b) Conference Paper:**

**c) Abstract:**

Modern man now harnesses information and communication technology to enhance better and efficient means of communication. The need for a display device that is cheap, small in size, light in weight, and with reprogrammable feature which allows placement at any convenient area and easy modification of information cannot be overemphasized. This paper presents the design and development of a microcontroller information display module that displays message and information via short message service (SMS) with a scrolling effect on a rectangular LED matrix array. This microcontroller based electronic scrolling message display board offers the flexibility to a user to control the message or information displayed without recourse to geographical location of the user, provided there is Global System for Mobile Communication (GSM) mobile network. Thus it eliminates the inconveniences of physically going to the display board to manually input information using a computer system. The circuit of was designed based on PIC16F628A microcontroller; C-programming language was used to program the microcontroller.

**Keywords:** Dot matrix, Microcontroller, Communication, LED, GSM.

**d) Name of Authors: Ogunyemi, J.** & Mathew T. O.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 3RD School of Engineering National Conference, Federal Polytechnic Ilaro.

**l) Year, Month and Day of publication:** March 7-10, 2016.



**a) Title:** Load Analysis of a Distribution Network for Energy Management

**b) Conference Paper:** 2nd School of Engineering International Conference

**c) Abstract:**

Energy as the mainstay of nation’s economy is inevitable in modern society and thus energy crisis remains dominant challenge globally most especially in the developing third world countries where the index of poverty is the on high scale. Carrying out energy audits entails measuring and analyzing the amount of energy used by a building or company to ensure that all aspects of energy management are optimized. This paper evaluates the distribution of electrical energy and consumption pattern at Federal Polytechnic Ilaro towards the effective utilization of electrical energy. This involves categorizing the buildings into 10 categories and assessing the existing loads on the campus by moving from one office to another, including other areas such as residential area, laboratories, and lecture rooms to see how energy is being utilized in their daily activities. The result shows that offices and religious houses have the highest and lowest value respectively. This result can help Work and Services Department and Management in proper planning of power distribution within the community. Such information can also be helpful not only to the host community, but also Government, energy planners and individual who may want to establish similar institution.

**d) Name of Authors: Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** Yaba College of Technology.

**l) Year, Month and Day of publication:** July, 2016.



**a) Title:** GSM Based Reliability Assessment and Service Quality Improvement Measures in Electricity Distribution Network.

**b) Conference Paper:** National Conference of Nigerian Society of Engineers.

**c) Abstract:**

Reliability of any power network is an important index of assessing the network’s performance. Poor generation, inadequate supply, frequent interruption and monitoring problems which have characterized the Nigerian power sector need to be addressed. The ability to monitor and respond quickly to power supply outages will go a long way in improving reliability and power quality of the network. With the advancement in telecommunication technology, remote monitoring of many activities has been enhanced in a lot of ways however with added cost and skill. This paper proposes cost-effective reliability assessment and service quality improvement measures using Global System of Mobile Communication (GSM) technology. It aims at developing a system capable of logging and sending notification of outages and restoration of a network simultaneously as they occur. The data thus obtained can be used to assess the reliability of the distribution. To this effect, an Android phone utility checker has been developed for monitoring power supply within a distribution network. The system was deployed into three areas within Ilaro distribution network to monitor power supply. The system supplied information on the status of power supply in each location at any moment through alert. The saved messages were thus used as data to characterize the reliability indices of the area under study. The distribution company (Disco) can adopt this method to monitor unscheduled outages within their distribution for prompt response. Regulatory bodies and stakeholders can use the system to monitor and assess any distribution company.

**Keywords:** Global system of mobile communication (GSM), utility power checker (UPC), distribution company (Disco), short message service (SMS).

**d) Name of Author: Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** Nigerian Society of Engineers’ National Conference, Exhibition and Annual General Meeting, Uyo, Akwa-Ibom State.

**g) ISSN:**

**k) Pages:**

**l) Year, Month and Day of publication:** 21st- 25th, Nov. 2016.

**m) Funder:**



**a) Title:** Improving Power Quality in Residential Area of Distribution Network through Monitoring

**b) Conference Paper:**

**c) Abstract:**

In today’s technologically advanced world, modern man depends so much upon continuous supply of electrical energy. The major world economies demand not only sufficient quantity but equally clean power for continued functioning of a wide array of appliances and equipment for everyday safety, security, mobility and economic welfare. Improving the quality and reliability of electricity power supply has been a major factor behind deregulation and electricity reforms globally. In Nigeria, the debilitating effects of instability in the power sector on the socio-economic lives of the people left much to be desired. Presently in Nigeria, perhaps due to inadequate power supply; not much emphasis has been laid on monitoring particularly in distribution network. The need for power monitoring as a tool for improving the quality has been emphasized in literatures. The paper presents power quality survey carried out in residential areas of distribution network using Power analyser equipment. Various power quality parameters were monitored continuously as they were logged in for every ten seconds. The data obtained were then analysed. Results show that the quality of power measured was below the international standard. Voltage values around 90V were continuously logged in for some periods in part of the network monitored. The result of this survey can help to contribute to industry standards development relating to power quality and effective performance assessment of Distribution Company. It can equally help to establish a more effective communication between the customer and the electrical utility.

Keywords: Power quality, Distribution network.

**d) Name of Authors: Ogunyemi, J**.& Adejumobi, I.A.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** Nigerian Society of Engineers’ National Conference, Exhibition and Annual General Meeting, Akure.

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 16th- 20th, Nov. 2015.

**m) Funder:**



**a) Title:** Promoting Energy-Saving Measures for Mitigating Electrical Power Crisis in Developing Countries

**b) Conference Paper:**

**c) Abstract:**

Globally, and more especially in the developing countries, there is energy crisis which has prompted energy conservation measures. Much power generated is yet lost through the use of obsolete and power-wasting equipment in industrial and residential circles. In Nigeria for instance, a current peak of 4000MW is generated for a population of over 170 million. It is therefore pertinent to conserve the meager energy available. One way to achieve this is by making power consumers develop energy-saving practices such as utilizing energy-saving lamps (ESLs) and the compact fluorescent lamps (CFLs). This study exemplified the pros and cons of utilizing ESLs to serve as a basis for the proposition of using such devices to the populace. A prototype three-bedroom flat (PTF) with 21 lamps was designed to carry out the assessment of the power consumption in a residential apartment. Using the PTF, power consumption measurements were taken for a set of incandescent lamps and same repeated for ESLs. The incandescent lamps consumed 360 kWh while the ESLs used only 216 kWh. The energy cost per month for using the ESLs was only N3,510.00 as against N5, 850.00 for the incandescent lamps. Thus, the household using the ESLs must have a saving of 144kWh (N2,340.00) per month. A 6,700,320MWh energy can be saved by only one-half of all households annually by switching to ESLs and CFLs. In five years, the cost of energy by the PTF using incandescent lamps would have been N351,000 and that of ESL would be N210, 600. Total cost of using incandescent lamp and the ESL then equals N380,250 and N231,900 respectively giving a saving of N148,350 with the use of ESLs. The seeming high cost of installation of the ESLs will be regained in the course of usage of power.

**d) Name of Authors:** Adetona, Z.A. & **Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** 2nd International Conference on Global Research Development and Challenges in the 21st Century, Niger Delta University, Wilberforce Island, Amasoma, Bayelsa State.

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 18th -20th November, 2014.

**m) Funder:**



**a) Title:** Power Quality Assessment in Nigerian Distribution Network.

**b) Conference Paper:**

**c) Abstract:**

The use of electronics devices as energy saving devices among others is on the increase globally due to factors such as environmental and economy. However, their application has constituted another problem in power system which must be addressed. As non-linear devices, they are not only sensitive to poor power quality but also contribute to poor power quality problems. Implications of poor power quality problems range from shut down of equipment to outright damage which leads to loss of money and labour. In Nigeria, data on power quality is almost completely lacking, and although data on the larger issue of electricity reliability are daily collected by the supply authority, the power quality data are not consistently defined and captured vividly in the distribution system. As Nigeria entered the deregulation market coupled with the promotion of energy saving device, there is need to address this problem. This paper identifies the existing gap on present state of power quality in Nigerian’s electricity distribution system and proffers appropriate solutions to address the problem.

**Keywords:** Power Quality, Non-linear devices, Standards.

**d) Name of Authors: Ogunyemi, J.** Fakolujo, A. & Adejumobi, I.A.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** Proceedings of EIE’s 2nd International Conference of Computing, Energy, Networking, Robotics & Telecommunication. Covenant University, Ota Nigeria.

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 21st-23rd Nov. 2012



**a) Title:** Pedagogical Application of Information Technology To Teaching and Learning Process.

**b) Conference Paper: PROCEEDING** of International Conference on Teaching, Learning and Change, 2011, Omoku.

**c) Abstract:**

The concept of Information and Communication Technology (ICT) is reviewed in this paper. The traditional method of teaching compared with the standard modern techniques of teaching and learning, the use of compact disks (CD),digital video disks (DVD), satellite communication, video conferencing and internet facilities are typical examples of modern learning techniques. This paper also discusses the level of awareness and usage of the Information and Communication Technology in Nigeria, Africa and the world at large. It exposes the weakness of Nigeria in the usage of the Technology. Graphical illustrations of the pattern of growth of Nigeria subscribers were critically examined and finally some secondary schools in Ilaro, Yewa South Local Government in Nigeria were sampled through the use of questionnaires. From the analysis we are able to obtain: the Qualification distribution pattern of the respondents, computer literacy among respondents teacher, Internet accessing distribution of the respondents, Gender distribution on computer literacy, Computer literacy among the students, Availability of infrastructures for information Technology in Secondary Schools and Correlation study also reveals that there is a strong relationship existing between teachers and students attitude towards the learning of computer. Keywords: Computer, correlation, information and communication technology, internet learning, teaching, video conferencing.

**d) Name of Authors:** Oduntan, E.O, Fagoyinbo I.S, Ajibode I.O and **Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronic Engineering

**f) Name of Publisher:**

**g) ISSN:**

**h) Official URL:** http://hrmars.com/admin/pics/133.pdf

**i) Volume No:**

**j) Issue No:**

**k) Pages:**259-270

**l) Year, Month and Day of publication:** 5th -8th September 2011

1. **Title:** Assessment of Automation in Nigerian Industries: Key to Company Partnership & Quality Graduates

**b) Conference Paper**

**c) Abstract:**

There is no country which seeks industrialization without the application of automation. Nigeria is no exception. This study presents the assessments of automation in various sectors of the Nigerian manufacturing companies. The findings from this research indicate that 75% of the manufacturing companies under study that have automated their operations are multinationals and foreign companies. Seventy percent (70%) of the respondents picked processing and assembling as the functions automated by their companies and 53% answered that their plant utilisation increased due to automation. It has also resulted to increase in plant output and reduction in accident or injury sustained. Ninety five percent (95%) of the respondents indicated that automation has less degradation on the environment. This information can help in developing curriculum to meet the needs of the industry.

**d) Name of Authors:**

**e) School/Department:**

**f) Name of Publisher:** 1st School of Engineering Conference, Federal Polytechnic Ilaro

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** Nov. 2010

**a) Title:** Energy Management for Efficient Productive Activities in an Economy In Distress.

**b) Conference Paper:**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J.** and Okoye, C.U.

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:**

**g) ISSN:**

**h) Official URL:**

**i) Volume No:-**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:**

**20)**

1. **Title:** The implication of Degree Awarding Status of Polytechnics on Engineering Profession.

**b) Conference Paper**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J.** and Awolola O.O

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 3rd ASUP Conference, Federal Polytechnic Ilaro

**g) ISSN:N/A**

**h) Official URL:N/A**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** Nov. 2008

**21)**

**a) Title:** An Assessment of National policy on Information Technology in Ogun

**b) Conference Paper:**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J.**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Publisher:** 2nd ASUP Conference, Federal Polytechnic Ilaro

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** Sept. 2007

**Journals Articles**



**a) Title:** Design and Implementation of Triangular Waveform and Pulse Generators for Three-phase PWM Inverter Feeding Induction Motor.

**b) Conference Paper/ Journal Paper**

**c) Abstract:**

Many circuits require different waveform as input. Sinusoidal and pulse waveform are examples of such signals. There are different generators which are specifically designed to produce such S signals. However, there are specific needs where a customized circuit may be required. This paper presents a design and implementation of Sinusoidal and pulse waveform generators which is used in firing circuit of Pulse Width Modulated Inverter to feed an induction motor. The design procedure involved determining the input power requirement. The main component used is ICL 8038 IC. The design was built and tested. The concept was used in developing a three-phase Pulse Width Modulated Inverter which was used to feed an induction motor.

Indexed Terms- Inverter, waveform, Induction motor, Pulse Width Modulation.

**d) Name of Authors: Ogunyemi, J.**  Bitrus, I. & Mathew T. O.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** Iconic Research and Engineering Journals

**g) ISSN:** (2019). Paper ID: 1701847

**h) Official URL:** **https://www.researchgate.net/publication/338805702**

**i) Volume No:** Vol. 3.

**j) Issue No:** Issue 6

**k) Pages:**

**l) Year, Month and Day of publication:** 2019

**2.**

**a) Title:** Harmonic Producing Loads in an Electrical Distribution Network International.

**b) Journal Paper:**

**c) Abstract:**

There has been an increasing demand for power electronics non-linear devices to mitigate energy crisis in the recent time. This paper evaluates this growing trend and call for concerted efforts to mitigate the problems. As a case study, series of survey were carried out at selected parts of Ilaro. They include Information Technology Centre (ICT) and Engineering blocks of the Federal Polytechnic Ilaro Ogun State, an environment dominated with the non-linear devices with a view to ascertain the level of penetration of these devices in the distribution system. Other places covered are religious centre and office building. Data on all electrical appliances in these places were gathered and classified into linear and nonlinear loads. Percentage of each was found and presented using pie chart. The result shows that the residential building has lowest percentage (5%) while religious centre has the highest percentage (79%) of non-linear and thus confirms that nonlinear loads are increasing which calls for attention. The stakeholders in electricity industries and market will find this information useful for planning and regulation purposes.

Key words: Non-linear devices, Harmonics, Power quality, Distribution network, Standards.

**d) Name of Authors: Ogunyemi, J**. and Adekusibe, K. G.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** Advances in Multidisciplinary & Scientific Research (AIMS) Journal.

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**

**j) Issue No:**

**k) Pages:**

**l) Year, Month and Day of publication:** 2019:



**a) Title:** Power Quality Survey of Voltage Stabilizers and Uninterruptible Power Supply with Nonlinear Loads.

**b) Journal Paper:**

**c) Abstract:**

Amongst the power quality problems faced in Nigeria, interruption and voltage fluctuation seem to be foremost. Thus, household electrical and electronic appliances are most times under the threat of outages and low voltage supply which cause them to malfunction or in extreme cases, get damaged. To address these problems, the use of uninterruptible power supply (UPS) and automatic voltage regulator commonly refer to as “stabilizer” has become very popular. The objective of this work is to examine the quality of these devices when powering other nonlinear devices. The experimental study was carried out by using a power harmonic analyzer to display the output parameters and waveform from each device under test when powering nonlinear loads. Parameters measured for each device were voltage, current, frequency, peak-to-peak voltage, total harmonic distortion (THD) and crest factor. The results showed that for the measured parameters, while other parameters relatively remain within the standards, the THD took an exemption as it was relatively higher with a range of 9.9 to 19.9 % for various combinations of loads. Though the outputs from the UPS were relatively higher than that of stabilizer (except for THD and crest factor where those of the stabilizer were higher), there was no significant difference between the parameter values measured. The implication of this was that increasing utilization of UPS and stabilizer will invariably continue to contribute more to the pollution of the existing weak network. Adequate measures were suggested to mitigate this. This research can be useful for the stakeholders in power industry for power quality improvement.

*Index Terms*— power quality, nonlinear loads, voltage stabilizer, uninterruptible power supply (UPS)

**d) Name of Authors: Ogunyemi, J.** & Adetona, Z.A.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** European Journal of Electrical and Computer Engineering EJECE

**g) ISSN:**

**h) Official URL:** DOI: http://dx.doi.org/10.24018/ejece.2019.3.6.141

**i) Volume No:** Vol. 3

**j) Issue No:** No. 6

**k) Pages:**

**l) Year, Month and Day of publication:** Dec.2019



**a) Title:** Performance of Optimal Power Allocation Algorithm on Selective Cooperative BroadBand over Powerline System.

**b) Journal Paper:**

**c) Abstract:**

Abstract: Broadband on power line technology is one that implements the existing power line network as a medium for the deployment of broadband data. Hence, broadband over powerline has the potential of meeting the demand of broadband for various applications because of the ubiquitous nature of the power line network, which is its medium. But as potent as the technology is, signals propagated along the powerline suffers so much impediment. The network introduces both impulsive and awgn noise and attenuates the signal severely. Implementing selective cooperative relaying with equal power allocation has been deployed on broadband over power line, it achieved some level of performance improvement. The two transmission links, direct and cooperative, were allocated equal power for the transmissions. In this paper, optimal power scheme for best performance was determined. This optimal scheme was implemented for the two transmission links in the selective algorithm. A ratio of 13𝑃𝑡: 23𝑃𝑡 (direct: cooperative) was achieved for the best performance. The performance evaluation was carried out for symbol error rate and channel capacity. This performance was benchmarked with those of equal power allocation selective scheme. The optimal power scheme achieved a prominent improvement in both channel capacity and symbol error rate. Keywords: Direct-link, cooperative link, equal-power, optimal-power, channel capacity and symbol error rate.

**d) Name of Authors:** Aiyelabowo, O. P. & **Ogunyemi, J**

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** IOSR Journal of Electronics and Communication Engineering (IOSR-JECE)

**g) ISSN:** e-ISSN: 2278-2834, p 2278-8735

**h) Official URL:** www.iosrjournals.org

**i) Volume No:** Volume 14

**j) Issue No:** Issue 5

**k) Pages:** pp 39-47

**l) Year, Month and Day of publication:** Sep-Oct. 2019



**a) Title:** Effects of Replacing Incandescent Bulb with Compact Fluorescent Lamp (CFL) In Electric Power System

**b) Journal Paper**

**c) Abstract:**

The clamour to replace the high wattage linear load with energy saving non-linear loads is on the increase. However, side effect of such replacement needs thorough analysis before the full implementation. This study presented the effect of replacing incandescent bulbs with compact fluorescent lamp on harmonic distortion in a model building estimated to require 28 incandescent lamps for lighting. All the incandescent lamps were first switched on and set of readings taken with the waveform. Two of the lamps were replaced with compact fluorescent lamp (CFL) and measurement repeated. The process was repeated until only CFLs were now left to obtain fifteen set of readings. Parameters measured include total harmonic distortion (THD), crest factor, root means square and peak values of both voltage and current. The equipment used was power and harmonic analyzer. The result showed that the THD and CF increased from 1.5% and 1.412 with only linear loads to 100% and 3.045 with only CFL respectively. The waveforms from analyzer’s screen show a highly distorted waveform with only CFLs. The various stakeholders in power industries need this information for proper planning and policy to regulate the influx of CFLs and other non-linear devices and to mitigate their impacts in the existing weak electric power system.

**d) Name of Authors: Ogunyemi, J.**& Adejumobi, I.A

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:** LAUTECH Journal of Engineering and Technology

**g) ISSN:**

**h) Official URL:** [www.laujet.com/index.php/laujet/article/view/231/198](http://www.laujet.com/index.php/laujet/article/view/231/198)

**i) Volume No: 12**

**j) Issue No: 2**

**k) Pages:** 33-40

**l) Year, Month and Day of publication:** (2018).,12(2) 2018: ().



**a) Title:** Combating the Fundamental Problems Affecting Power Quality Issues in Nigeria

**b) Journal Paper:**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J.** & Adejumobi, I.A.

**e) School/Department:** School of Engineering/Electrical/Electronics Engineering

**f) Name of Journal Publisher:** Journal of Academic Staff Union of Polytechnic (JASUP). A Multi-Disciplinary Publication of Academic Staff Union of Polytechnic, Zone C

**g) ISSN:** 2504-9216

**h) Official URL:**

**i) Volume No:** Vol.1

**j) Issue No:** No. 2

**k) Pages:133-139**

**l) Year, Month and Day of publication:** January, 2016

**7)**

**a) Title:** Analysis of Power Quality Parameters in ICT Environment American

**b) Journal Paper:**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J.**

**e) School/Department: School of Engineering/Electrical/Electronics Engineering**

**f) Name of Journal Publisher:** Journal of Engineering Research (AJER).

**g) ISSN:** e-ISSN: 2320-0847 p-ISSN : 2320-0936

**h) Official URL:** [www.ajer.org](http://www.ajer.org)

**i) Volume No:** Volume-5

**j) Issue No:** Issue-12

**k) Pages:** pp-276-281

**l) Year, Month and Day of publication: 2016**

**8)**

**a) Title:** Performance Evaluation of Power Quality Mitigating Equipment: A Case Study of Uninterrupted Power Supply (UPS) Applications in Ilaro.

**b) Journal Paper:**

**c) Abstract:**

**d) Name of Authors: Ogunyemi, J**. & Adejumobi, I.A.

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:** International Journal of Engineering Research & Technology (IJERT)

**g) ISSN:**

**h) Official URL:**

**i) Volume No:** Vol. 2,

**j) Issue No:** Issue 12

**k) Pages:**

**l) Year, Month and Day of publication:** December-2013

**9) a) Title:** Electronics Simulation of Phase Shift Circuit for Three-Phase Pulse Width Modulated (PWM) Inverter.

**b) Journal Paper:**

**c) Abstract:**

This paper presents design of the firing circuit for a three phase inverter using the pulse-width modulation (PWM) technique. The PWM control of induction machines is now being increasingly applied to reduce harmonics inherent in other methods of control. The design adapts a phase shifting technique to obtain the three phase sinusoidal input for the PWM method. Electronic simulation was used to validate the design. The results of the simulation presented shows that the design procedure used was correct.

**d) Name of Author: Ogunyemi, J. (2013)**

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:** International Journal of Engineering Research & Technology (IJERT).

**g) ISSN:**

**h) Official URL:** https://www.ijert.org/research/electronics-simulation-of-phase-shift-circuit-for-three-phase-pulse-width-modulated-pwm-inverter-IJERTV2IS111224.pdf

**i) Volume No:** Vol. 2

**j) Issue No:** Issue 12

**k) Pages:**

**l) Year, Month and Day of publication:** November-2013.

**m) Funder**

**10)**

1. **Title:** Energy Demand & Utilization in Tertiary Institution: A Case Study of the Federal Polytechnic Ilaro.

**b) Conference Paper/ Journal Paper**

**c) Abstract**

This paper presents the results of an investigation into energy consumption at The Federal Polytechnic Ilaro in Nigeria. The aim of the study was to investigate energy demand of the polytechnic. The study was carried out in the west campus of the institution. Necessary data on installed capacity as well as operating capacity were obtained by direct inspection of some of the studied areas. Descriptive statistics such as percentages, pie charts and bar charts were used in the analysis of data obtained. The knowledge gained through the study will be of help in energy planning.

Keywords: Energy consumption, retrofit measures

**d) Name of Authors: Ogunyemi, J.** & Fadare, S. A.

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:** International Journal of Electrical, Electronics and Data Communication,

**h) Official URL:**

**i)** ISSN: 2320-2084

**j) Volume No:** Volume-1,

**k) Issue No:** Issue-7

**l) Pages:**

**m) Year, Month and Day of publication:** Sep-2013,

**11)**

**a) Title:** An Assessment of Energy Management of Electricity Consumer in Nigeria

**b) Conference Paper/ Journal Paper**

**c) Abstract**

The energy scenario globally calls for efficient use of electrical energy.

Most often, consumers’ contributions to electrical energy management are not properly assessed. This paper takes a critical look at the contributory effects of end users of electricity at residential areas. Data was obtained on the consumption pattern of three classes of customers (Pre-paid, Post-paid and Estimate Customers). Statistical tools such as Spearman Rank correlation and Pearson moment correlation were used to analyze the data. The result shows that those prepaid customer are better managers of energy.

**d) Name of Authors: Ogunyemi, J.** and Okoye, C. U.

**e) School/Department: School of Engineering/Electrical/Electronic Engineering**

**f) Name of Journal Publisher:** Journal of Engineering Science and Technology Duncan Science Publication Uyo Akwa Ibom State

**g) ISSN:**

**h) Official URL:**

**i) Volume No:**5

**j) Issue No:**3

**k) Pages:** 16-21

**l) Year, Month and Day of publication:** Jan2010

**Textbooks**

1. **Title:** Problems, Solutions and Tutorials for Control Engineering Basic
2. **Text book**
3. **Name of Authors: Ogunyemi, J.**
4. **School/Department:** School of Engineering/Electrical/Electronics Engineering
5. **Name of Journal Publisher:** Femlight Publisher
6. ISBN: 978-978-979-413-3.
7. **Official URL**
8. **Volume No**
9. **Issue No**
10. **Pages**
11. **Year, Month and Day of publication: 2019**
12. **Title:** Introduction to Control Engineering.
13. **Textbook**
14. **Name of Author: Ogunyemi, J.**
15. **School/Department: Department of Electrical/Electronic Engineering**
16. **Name of Journal Publisher:** Lincoln Multipurpose Publisher.
17. **ISBN:** ISBN no: 978-978-533389-1-1.
18. **Edition:** 1st edition
19. **Year, Month and Day of publication: 2016**

**3.**

a) **Title:** Useful information on Engineer in Society.

**b) Textbook**

**d) Name of Authors:** Owodolu, O. O., Osore, O.A., Dada, A., **Ogunyemi, J**., Ajibola, W. A., Aikulola, O. A., & Eze, B. E.

**e) School/Department: School of Engineering/Electrical/Electronics Engineering**

**f) Name of Journal Publisher:** 1stedition WSO Publishers.

**g) ISBN:**

**i) Edition No:** 1st edition

**k) Pages:** 74-91& 179-191

**l) Year, Month and Day of publication:** 2014