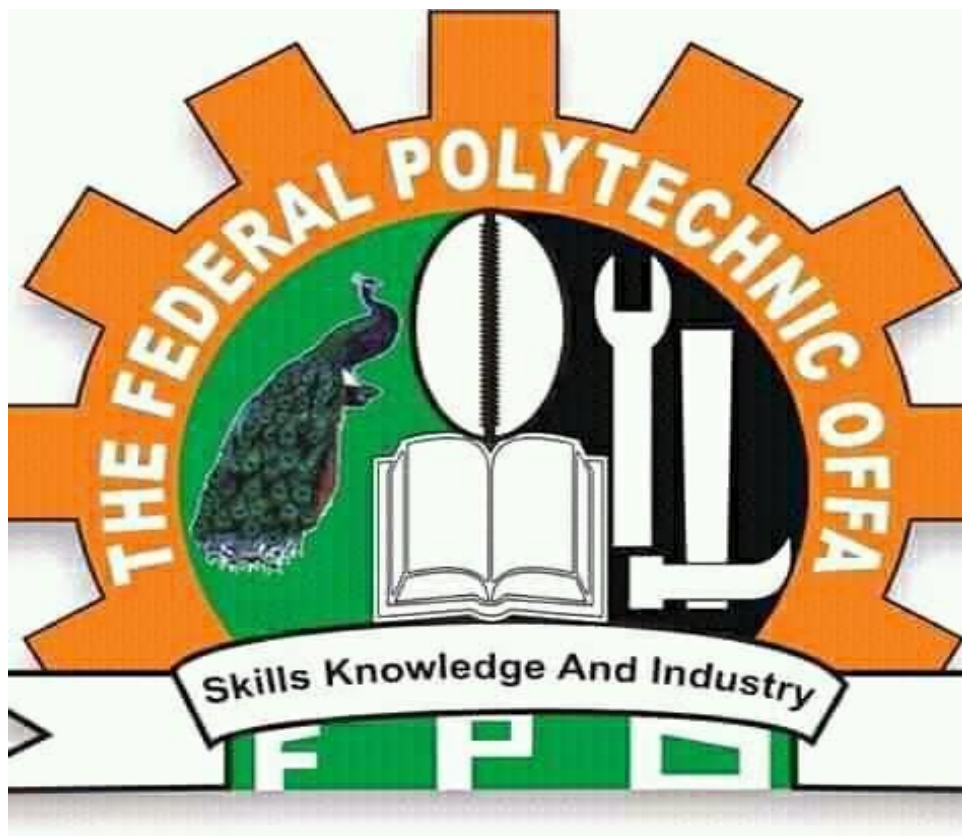
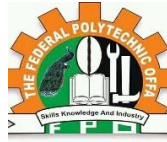


**FEDERAL POLYTECHNIC OFFA**  
**KWARA STATE**  
**NIGERIA**



# THE FEDERAL POLYTECHNIC OFFA



## **BRIEF HISTORY OF FEDERAL POLYTECHNIC OFFA, KWARA STATE, NIGERIA**

The Federal Polytechnic Offa, Nigeria is a Technical and Vocational Education and Training (TVET) Centre established in 1992 following a pronouncement by the then Military President, Ibrahim Babangida at the Palace of His Royal Highness, Olofa of Offa, Oba Mustapha Olawoore Olanipekun Ariwajoye II during a state visit in 1991. The Polytechnic was established to train students to acquire scientific and technological knowledge and skills with an appropriate measure of social skills such as will imbue the graduates with national and civil consciousness, discipline, self-reliance, and entrepreneurial skills in such a way that the graduates will be able to install, operate, repair, maintain equipment and effectively participate and assist in the planning, execution and management of environmental, technological and agricultural projects and product development.

There are six (6) schools in the Polytechnic: School of Applied Sciences and Technology, School of Business and Management Studies, School of Communication and Information Technology, School of Engineering Technology, School of Environmental Studies and School of General Studies. The Polytechnic offers 27 courses at National Diploma (ND) level and 25 courses at Higher National Diploma (HND) level.

Suitable candidates are to pass through [caps.jamb.gov.ng](http://caps.jamb.gov.ng) in addition to the following: SSC, GCE O' level with at least five (5) credit passes in relevant subjects including English Language and Mathematics obtained at not more than two (2) sittings. The National Technical Certificate (NTC) or National Business Certificate (NBC) is acceptable with credit level pass in a trade plus four relevant academic subjects which must include English Language and Mathematics. The General entry requirements for ND and HND programmes are the same.

The staff strength is five hundred and eighty. The Federal Polytechnic Offa has over 60 PhD holders. On the average there are twenty one staff for each of the 27 courses at National Diploma (ND) and 25 courses at Higher National Diploma (HND) levels. The students' population is about fifteen thousand.

There are over one hundred classrooms and twenty lecture theatres meant for students use. The Polytechnic has hostels, library facilities and sports centres to meet the accommodation, learning and physical activities for both staff and students. The Polytechnic has an Information Communication Centre (ICT) that serves students, staff and the immediate community. The Payment of School Fees, Registration of Courses, Hostel accommodation etc are performed Online via the Schools Web Portal. Wards of staff and parents within the local environment take the Joint Admissions and Matriculations Board (JAMB) examinations in the ICT centre. There are school buses that complement the commercial buses to ensure that transportation is not a challenge to all staff and students. Also, the road network within the campus is well laid out for free flow of traffic.

**DESK OFFICER: DEAN, *DIRECTORATE OF RESEARCH AND INNOVATIONS (DRI)***

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**PHONE:** +234 805 595 9496

**TITLE OF THE PROJECT: EFFECT OF GRANULATED COW BONE ON THE ENGINEERING PROPERTIES OF BLENDED CEMENT-CASSAVA PEEL ASH CONCRETE**



**DEPARTMENT:** Civil Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

Concrete is the most commonly used Man-made construction material in which aggregates both fine and coarse are bonded together by cement when mixed with water.

Cassava Peel is one of the admixture/additive used for the replacement of the cement because it has a pozzolanic properties to bind concrete material and was gotten from a retailer of cassava

peel at Owode Market in Offa Kwara State. The peel were initially burnt to ash through open air burning before being subjected to control burning in a furnace at a temperature of 600.C for 90Minutes. The Cow Bone is the second admixture used and was obtained at abattoir in Owode Market in Offa, Kwara State, Nigeria. The Cow bone were sundried and were burnt up by uncontrolled method and later crushed to become finer particles to be used as binder to replace cement at 5%, 10% and 15% respectively to know its effect on blended cement-cassava peel ash concrete. The research was subjected to the following test: Natural Moisture Content, Grain size Analysis, Specific Gravities of aggregates and pozzolans, Oxide Composition Analysis, Workability Test (Via Slump), Consistency Test on the Concrete, Setting Time of the Cement Paste, Compressive, Flexural and Split Tensile Strength Test and Microstructural Analysis Test of the sample were also observed.

The natural moisture content and grain size analysis was determined. Oxide test on GCB and CPA was also determined at Rolab Research and Diagnostic Laboratory Ibadan showing that SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub> and Fe<sub>2</sub>O<sub>3</sub> on CPA is 72.16% which is above 70% recommended for Pozzolan. The Specific Gravities was done on Cement, Sand, Granite, GCB and CPA and the results were 3.0g, 2.6g, 2.9g, 2.2g and 2.8g respectively. The result on the workability test shows that all the slump height are True Slump and the concrete is less workable (Stiff) and the Consistency test increases with increase of pozzolan replacement and more water was required to make a concrete workable. Also the Initial and Final setting time results shows that all the values increases with the increase of percentage replacement and all the results meet the IS standard. On the strength analysis using water binder ratio of 0.5 and 1:2:4 mix the results that the bending and compressive strength of all percentage replacement is inversely proportional to the curing days and the highest compressive strength values gotten are 7.790N/mm<sup>2</sup> and 6.906N/mm<sup>2</sup> and this values are achieved at 5% CCPA and 10% CCPA at 28days curing respectively and however, the value are lower than 15N/mm<sup>2</sup> for 1:2:4 mix as stated in IS 456 – 2000 (Code of Practice). The greatest yield strength was also achieved on the beam produced with 0% for each of CCPA (3.801N/mm<sup>2</sup>) CCPA/GCB Combined (3.792N/mm<sup>2</sup>) and GCB (3.786N/mm<sup>2</sup>) at 7days, 56days and 14days curing respectively. The Microstructural analysis on the effect of Granulated Cow bone was analysed using Scanning Electron Micrograph and the results shows that all the specimens are densely packed with pores/voids in between them which makes it suitable for absorption.

**RESEARCH TEAM:** Engr. Oyeniyani Wasiu Oyebisi (Principal Researcher)

Engr. Ajala Ayantola Kabir (Co-Researcher)

**SPONSOR:** TETFUND

## TITLE OF PROJECT: DEVELOPMENT AND MECHANICAL CHARACTERISATION OF ABRASIVE GRINDING WHEELS FROM COCONUT, PALM KERNEL AND PERIWINKLE SHELLS



**DEPARTMENTS:** Mechanical Engineering and Civil Engineering

### BRIEF DESCRIPTION OF THE RESEARCH

In answer to the challenge, this study is based on the creation and formulation of biodegradable composite abrasive grinding wheels constructed from coconut shell, palm kernel shell, and periwinkle shell with polyester resin. Raw samples of CNS, PKS, and PWS

were each collected, sorted, ground and pulverized into varied particle sizes of 0.25, 0.50, and 0.85 mm. These pulverized samples were blended at mixing ratios of 75/0/0, 0/75/0, 0/0/75, 40/20/15, 20/40/15, 30/30/15g of CNS, PKS and PWS; bonding with 23g of polyester resin as a binder while 2g cobalt compound and methyl-ethyl ketone peroxide used as a hardener to initiate polymerization and catalyse the reaction process respectively. The sieve sizes of 0.25 to 0.50 mm showed to have retained large quantity of the samples pulverized. This is pulverized were used to produce a composite grinding wheel of various blends as state above. Some physical mechanical test were conducted on the composite samples produced such as shattering index, water absorption level, compressive strength and tensile strength. The shattering index show to have values from the lowest of 76% (20/40/15g) from 0.25 mm while the highest value of 100% (30/30/15) 0.25 mm, 0.50 mm and (20/40/15g) of 0.85 mm. the samples showed good behavior for shattering index. The water absorption level showed values range from 07.69% to 33.33% after 24 hours in distilled water which could be as a result of high fibre content. The compressive strength has its lowest value at 1730 kN/mm<sup>2</sup> and highest value of 4922 kN/mm<sup>2</sup>, (20/40/15g) 0.50 mm and (30/30/15g) 0.85 respectively. The tensile strength showed its peak value of 0.829 N/mm<sup>2</sup> (0.85mm) while its lowest of 0.169 N/mm<sup>2</sup> (0.50mm). These showed that the production of abrasive grinding wheels from the blend of palm kernel shell, coconut shell, and periwinkle shell is possible and recommended with little more improvement on the work to increase our economy by reducing high level of this non-biodegradable grinding wheel and equally reducing effect of environmental pollution in our country today.

**RESEARCH TEAM:** Sam Obu Chijioke Victor

Chris-Ukaegbu Stella Ozioma

**SPONSOR:** TETFUND



**TITLE OF PROJECT: BRIQUETTES AS AN ALTERNATIVE TO FUEL USING BLEND OF CORNCOB AND RICE HUSK**



**DEPARTMENT:** Department of Mechanical

**BRIEF DESCRIPTION OF THE RESEARCH**

The main subjects of this study were the creation and evaluation of briquettes made from a mixture of corncob and rice husk. The calorific value of the manufactured briquettes and proximal and ultimate analyses were used to evaluate their combustion characteristics. The manufactured fuel briquette's ash, moisture, volatile matter, and fixed carbon contents vary from 2.99 to 14.28, 4.24 to 14.99, 59.7 to 71.39, and 9.50 to 21.38, respectively. Its calorific value ranges from 11.98 to 15.55 MJ/kg. A few physical and mechanical characteristics were determined, including compressed and relaxed densities, relaxation ratios, shattering indices, and water resistance capacities. The physico-mechanical characteristics of the briquettes were shown to be affected by differences in particle size and compaction pressure, with samples with smaller particle sizes exhibiting the best characteristics. The maximum compressed density (2.1 g/cm<sup>3</sup>), relaxed density (0.82 g/cm<sup>3</sup>), shattering index (99.53%), and water resistance capacity (11.9 minutes) were found in maize cob briquettes with 0.2 mm particle size. Most of the combustion and physico-mechanical properties of the briquettes generated were reduced as the amount of rice husk in the briquette blends increased. Briquettes made from a mixture of rice husk and corn cob can be used as a source of cooking fuel and in small businesses like bakeries.

**RESEARCH TEAM:** Amos Joshua

Odeniyi Michael. O

**SPONSOR:** TETFUND

**TITLE OF PROJECT: DEVELOPMENT OF A MOVEABLE TELEPRESENCE ROBOT FOR HOSPITAL APPLICATION**



**DEPARTMENT:** Electrical/Electronic Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

The concept of telepresence has to do with the sense of being in a remote location when one is not there. This sense is made possible by all the technologies involved in enabling the person to have a feel of being remotely present and carrying out activities as if he/she were physically present. These activities include audio and video communication. However, in the case of a mobile telepresence robot, in addition to audio and video communication, the person

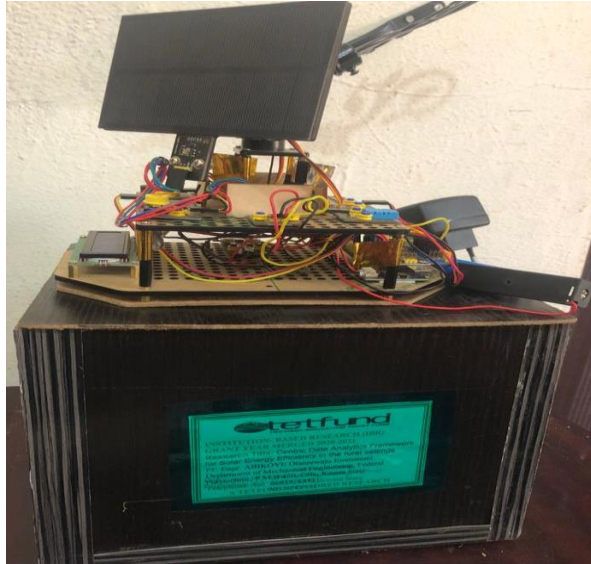
will also be able to move around remotely with the help of the mobile robot. Before now, we already have applications such as Zoom, Skype, WhatsApp video call and Microsoft team which affect telepresence and teleconferencing, but this work discusses the addition of a greater dimension to the feeling of being present by using a robot to represent the individual to be present and the robot is being controlled accordingly by the individual who is also the pilot user. In general, robotic telepresence offers the means to connect to a remote location via traditional telepresence with the added value of moving and actuating in that location. With the advancement in technology and particularly, information and communication technology and the consequent emergence of computers with enormous capabilities, the field of a telepresence robot is witnessing remarkable growth and relevance. Some of the areas of applications include education, medical practice, business and industrial applications. Several scholars have delved into research works involving telepresence robots, this work attempts to give a cursive review.

**RESEARCH TEAM:** Engr. Aduradola Augustine

Mr Salaudeen Wasiu O.

**SPONSOR:** TETFUND

**TITLE OF PROJECT: CENTRIC DATA ANALYTICS FRAMEWORK FOR SOLAR ENERGY EFFICIENCY IN THE RURAL SETTINGS NETWORK**



**DEPARTMENT:** Mechanical Engineering and Computer Engineering,

**BRIEF DESCRIPTION OF THE RESEARCH**

The experimental means to determine the efficiency of solar energy, the position of the Sun along the solar panel is not fixed due to the rotation of the Earth. The research is divided into two stages, which are hardware modules and software development. In hardware modular development, its required five light dependent resistor (LDR) for capturing maximum light source from predefined longitude and latitude coordinates. Two servo motors will be used to drive the solar panel at maximum light source location sensing by LDR. Moreover, the source code will be written in C programming language and targeted to Arduino UNO

controller. The efficiency of the system will be tested from remote location using mobile application and the result will be compared with static solar panel on several time intervals chosen from number of days covered for the study and consistence of voltage generated will examined in order to achieve desire results

In other to realize the scope of this work, the researcher will visit six Local Government Area(s) in Kwara State. Then carry out data capturing using applied technology named Centric Data Analytics Framework for Solar Energy Efficiency (DAFSEE). The data collection will be driven through an embedded mobile application using a dependable solar panel installed alongside pairable devices on-field landmarks to enable the setup system to absorb energy to a maximum extent periodically. The energy captured will be store concerning periodically change in direction of sunlight. The results stored in the data bank will be used for future analysis. This can be done only if the DAFSEE are continuously connected to the remote device for experimental monitoring for twelve months.

**RESEARCH TEAM:** Engr. Abikoye Olanrewaju E.

Engr. Olaboye Yinusa O.

Engr. Tech. Alabi Abdullateef O.

**SPONSOR:** TETFUND

**TITLE OF PROJECT:** DEVELOPMENT OF GLOBAL SOLAR RESOURCE EVALUATION MODEL AND SOLAR POWER SYSTEM FOR OFFA, KWARA STATE, NIGERIA.



**DEPARTMENT:** Electrical/Electronic Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

The energy need of the modern man is on the increase, this is due to man's penchant for energy, which is needed for his comfort. Fossil fuel and hydropower still account for a higher percentage of the global energy supply. However, with fossil fuel deposits rapidly depleting and their price being generally on the increase, there is a need to explore non-conventional sources of energy. Furthermore, there are multiple issues and concerns concerning the fossil fuels impact on the environment and well-being of man such as land degradation due to mining and oil and gas exploration, acid rain,

water pollution, and so on. Given these aforementioned reasons, renewable energy has attracted a lot of attention recently due to its advantages and deliberate governmental policy. This work focussed on solar resource evaluation of Offa, a town located in Kwara State, North Central, Nigeria, with coordinates: longitudes  $8\ 0\ 30'\ 05''$  N and latitude  $8\ 0\ 15'\ 55''$  E. Five selected models were evaluated with measured data. The daily incident solar radiation fluctuates around  $180\ \text{W/m}^2$ .

**RESEARCH TEAM:** Engr Dr Kehinde, Olufemi Oluseye

Bamidele, Ganiyu Kolawole

Adekanye, Majeed J

**SPONSOR:** TETFUND



**TITLE OF PROJECT: DESIGN AND DEVELOPMENT OF TITANIUM-BASED COPPER-BEARING ALLOY IMPLANT FOR BIOMEDICAL APPLICATION**



**DEPARTMENT:** Mechanical Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

There is a serious need for indigenous manufacture of titanium-based alloys for small scale production of implants. Incessant accidents on Nigeria's poor roads lead to permanent injury or loss of limbs. Replacements of these limbs are therefore necessary for the poor victims. However, the high costs of treatment or replacement of these body parts have led to

permanent incapacitation. This is because the high cost of these implant materials is a major factor that hinders the accident victims from getting a replacement. This is ultimately due to the unavailability of these materials locally, in Nigeria. This research therefore seeks to manufacture in large quantities implant titanium-based implant materials at very cheap cost to the poor accident victims. This will afford them a second chance at using their limbs to perform the desired functions. In this work, a potential antibacterial Ti-3.5Cu-based alloy was designed and developed, with commercially pure titanium (cp-Ti) used as control. The novel Cu-bearing Ti-3.5Cu alloy with optimum mechanical properties and attractive physical properties was designed and fabricated. Bond order (*Bo*) and metal d-orbital (*Md*) method was used in designing the alloys. Data values obtained from this hypothesis were used to predict the properties of the different alloys. Hot forging of the billet was done in temperature range 750–765°C (to 75% deformation), followed by hot rolling at about 800–807°C (deformed by 94.24%) and finally heat-treating above their beta transition temperatures (BTT). Results for *Bo-Md* design analysis, microstructural, mechanical and physical properties show promising basis for development of implant for orthopaedic application.

**RESEARCH TEAM:** Engr. Dr. Sharafadeen Kunle KOLAWOLE (R. Engr (COREN), MNSE)

Engr. S.O. Ogundele

Engr. T.O. Woli

Engr. M.A. Azeez

**SPONSOR:** TETFUND

**TITLE OF PROJECT:** EFFECT OF ANNEALING TEMPERATURE AND SOAKING TIME ON THE MACHINABILITY CHARACTERISTICS OF NODULAR CAST IRON



**DEPARTMENT:** Mechanical Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

The machinability of nodular cast iron annealed at different temperatures and soaking times has been investigated. A total of nine samples were used for the experiment. Four of the samples were austenitized at a temperature of 750°C, 800°C, 850°C and 900°C and then soaked for 30 minutes at the

selected temperatures and then furnace cooled to room temperature. The other four samples were also austenitized at the same temperatures mentioned above and soaked for 60 minutes. One sample was left in as-cast state. Orthogonal turning operation was carried out on the samples at different cutting speeds (30 – 500 rpm) where the feed and depth of cut were maintained constant and the surface finish produced were measured in terms of average surface roughness. The hardness and microstructure of the nodular cast iron were also conducted. From the results obtained, it was observed that at lower annealing temperatures (750°C – 800°C), the materials soaked for 30 minutes have a better surface finish whereas at higher annealing temperatures (850°C – 900°C), good surface finish was obtained for the material soaked for 60 at any cutting speed. The lowest hardness value (100BHv) was recorded for the material annealed at 900°C and soaking time of 60 minutes. It was further observed that the effect of annealing heat treatment is mostly to lower the hardness of metal so that they can be machined at a relative ease.

**RESEARCH TEAM:** Engr. YAKUBU Onimisi Hassan MNMS, MNSE (COREN R.)

**SPONSOR:** TETFUND

**TITLE OF PROJECT:** DEVELOPMENT AND PERFORMANCE EVALUATION OF A SHORT MESSAGE SERVICE (SMS) BASED HOME APPLIANCES CONTROL SYSTEM



**DEPARTMENT:** Applied Physics

**BRIEF DESCRIPTION OF THE RESEARCH**

Due to their availability and ease of use, mobile phones are frequently employed nowadays for a variety of applications such as wireless control and monitoring. The system is based on the "global system mobile (GSM)" network and uses "short message service (SMS)" technology. This paper describes an application that aims to get more out of GSM mobile phones than only voice and data connections. A GSM modem and an Arduino Uno are the essential components of the design. The system describes how to manage and control home appliances using a mobile phone in this paper. It entails the creation of a gadget that uses GSM technology to control home appliances. A microcontroller ATmega8L is at the heart of the designed system, which coordinates and processes control commands in the form of brief messages from mobile stations. A working prototype created to demonstrate the design can control up to five connected appliances with a maximum current consumption of 13A. The status of connected appliances can be displayed on the LCD screen. The control is accomplished by sending specific SMS messages from a smartphone to a SIM900 and an Arduino Uno that are both connected to the appliance. Once the message is received, the SIM 900 will send the command to a microcontroller in the Arduino, which will then control the appliance appropriately. The developed system can also seek feedback on the status of three devices.

**RESEARCH TEAM:** Shittu, Tajudeen Olanrewaju  
Olawale, Kazeem Oriyomi

**SPONSOR:** TETFUND

**TITLE OF PROJECT: REAL-TIME MONITORING OF LEAK DETECTION (LD) IN PIPELINES DISTRIBUTION**



**DEPARTMENT:** Mechanical Engineering and Computer Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

In all over the world, an improved monitoring system is an ongoing innovation in many technological inventions. Monitoring are important ethics to achieve periodical maintenance in our society and our society relies on extensive pipeline networks to transfer and deliver water, oil, etc.

Pipelines Vandalisms habit and unethical human power maintenance culture are the predominant problems which degraded Federal Government of Nigeria revenue on yearly basis. In many scenarios, the pipeline extends over hundreds of miles and run through in hospitable environments in Nigeria majorly been venerable to vandalization and the traditional mean of securing pipeline proven to human policing effort. This effort not efficient to prevent the incident reoccurrence but the use of effective technology that can monitor pipelines (End to End) not widely used in most affected areas. We intend to develop a Real-Time monitoring of Leak Detection (LD) in pipelines distribution network prototype that enable users to monitor pipelines in a real time with optional features to detect point of attack or potential vulnerabilities stop in the network. This can be done by research design, implementation and exploration of predictive model using convolution neural network. This research was executed with four month and able to prepare, procure needed equipment and materials. The proposed technology include both hardware and software which enable to target both desktop and mobile devices for effective usage. The artifact developed was used to run pilot testing, performed evaluation based on data gathered over time. Lastly, we file in our reports on the result obtained from pilot testing. The researcher to run system performance evaluation to authenticate effectiveness and impact on public safety.

**RESEARCH TEAM:** Engr. OLABOYE Yinusa Olayiwola

Engr. ABIKOYE Olanrewaju E.

Engr. Tech. ALABI Abdullateef O.

**SPONSOR:** TETFUND



**TITLE OF PROJECT:** ASSESSMENT OF THE UTILIZATION OF NIGERIAN STEEL SLAG (NSS) AS PARTIAL REPLACEMENT OF COARSE AGGREGATE IN CONCRETE GRADE 25 AND 30



**DEPARTMENT:** Civil Engineering

**BRIEF DESCRIPTION OF THE RESEARCH**

This study assessed the utilization of Nigerian Steel Slag (NSS) as partial replacement of coarse aggregate in concrete grade 25 and 30. Steel slag from Ife Nigeria Slag Limited were used to

replace crushed stone (granite) by 0,25,50,75 and 100%. Physical properties were determined on aggregates while slump test was carried out on fresh concrete. A total number of One Hundred and Twenty (120) concrete cubes of sizes 150 by 150 by 150mm, and 120 cylindrical concrete samples of sizes 150 by 300mm were produced. The concrete specimens were cured by immersion in water for maximum of 28days in order to determine the densities, compressive and split tensile strengths of the concretes in hardened state'

FThe result of the fresh concrete for grade 25 and 30 became less workable (stiff) as the slag content in the fresh concrete mix increased. Hence, slump height of grade 30 is lower to that of grade 25. The behavior of the 28 days comprehensive strengths indicated that 50, 75 and 100% NSS-Concretes of grade 25 meets the designed target strength of  $31.56\text{N/mm}^2$  while control and 25% NSS-Concretes meets the characteristics strength of  $25\text{N/mm}^2$ . Nonetheless, all granites replacements (25,50,75 and 100% NSS) in grade 30 meets the designed target strength of  $36.56\text{N/mm}^2$ . Hence, the intending use and economical factor of concrete will determine the percentage of NSS to be used as all percentage meets the characteristics strengths of grade 25 and 30.

**RESEARCH TEAM:** Engr. Salaudeen Fatai Adebayo

Engr. Anifowose MUKaila Abiola

**SPONSOR:** TETFUND

**TITLE OF PROJECT:** DEVELOPMENT OF A DIGITAL GAUGE FOR FUEL CONSUMPTION IN VEHICLE.



**DEPARTMENT:** Science Laboratory  
Technology

**BRIEF DESCRIPTION OF THE RESEARCH**

The main reason for stretching a vehicle's mileage is the analogue fuel gauge present on the dashboard of the car which makes the driver think that he or she is running low on fuel while the need to refill the tank. Therefore, the analogue vehicle fuel gauge is inaccurate; however, this research embedded systems incorporated to obtain better accuracy by creating and developing a digital

display of the exact amount of fuel contained in the fuel tank of the vehicle helps in crosschecking the quantity of fuel filled at the petrol station. An analogue fuel meter displays three levels of fuel: empty, half-full, and full. As a result, it's impossible to estimate the amount of fuel in the tank: The gasoline level is displayed on an analogue car fuel gauge by a needle or meter pointer. The amount of fuel in the tank is displayed in litres on a digital fuel meter. This litres value will be in numerical digits (ex 1 2 lit, 1 3 lit, 1.4 lit). The microcontroller is turned on, the gasoline level in the tank is measured, and the amount of fuel in the tank is displayed on the LCD. The fuel level in the fuel tank is then automatically monitored by displaying the fuel level information digitally.

**RESEARCH TEAM:** Abdusalam Abdullahi Bayo

Idris Mohammed

**SPONSOR:** TETFUND



**TITLE OF THE PROJECT: A SURVEY ON THE NEED FOR STATISTICAL LITERACY AT GRASSROOTS IN KWARA STATE OF NIGERIA**

**DEPARTMENT:** Statistics

**BRIEF DESCRIPTION OF THE RESEARCH**

The ultimate goal was to investigate the reasons for the consistent low number of applicants for Statistics programme in the Federal Polytechnic, Offa Kwara State, Nigeria. Specifically to identify the problems associated with students' orientation that makes Statistics as a course of study so unattractive and proffer solution to the identified problems. The study area was Kwara State of Nigeria. 872 students were studied across 16 schools with a range of 27-96 students from each school. The subjects investigated were students in SSS 1, 2, 3 in Secondary Schools within the study area. Questionnaires were administered to evaluate students' knowledge on statistics. After the administration of questionnaires, trainings were conducted to expose students on statistics. The content of the training was compiled in a handbook and handed over to the students before the sessions began. At the end of the training, same questionnaires were re-administered to the same group of students that were trained. Simple descriptive statistics was used to organize and analyze data collected from the study. Results show some Senior Secondary School students lacked knowledge on statistics relating to numerical facts and its potentials to improve citizens' welfare and achieve a better society. It could be inferred that the Junior Secondary School students have similar challenges with the Senior Secondary School students as regards limitation on knowledge about importance of statistics and its existence as a course of study in tertiary institutions. This calls for the need to sensitize students on the subject matter from the grassroots. It is recommended that statistics should be introduced to students as a subject at the lower, middle and upper basic levels of education. Similar to international best practices, the nine (9) year Basic Education Curriculum will need to be revised by the Nigerian Educational Research and Development Council to incorporate Statistics as one of the subjects to be studied. In this light, the curriculum will be more practical to meet the country's need in terms of statistical literacy. Ultimately, the number of applicants for Statistics programs at the tertiary levels of education will likely increase in the coming sessions for higher institutions within Kwara State of Nigeria. The students contacted and their contemporaries will be more sensitive to the significance of statistics for individual and societal growth today and in the near future when they take over the mantle of leadership of our great country Nigeria.

**RESEARCH TEAM:** KORTER Grace Oluwatoyin PhD

**SPONSOR:** TETFUND