CURRICULUM VITAE

Dare, Enock Olugbenga, PhD Chem (Ilorín); Adv. Res. P.Díp. Chem. Eng. (TIT, Tokyo); MRSC; HUMBOLDT FELLOW; FULBRIGHT/USAMI fellow; UNESCO fellow; MONBUSCHO fellow; Taíwan National Science Foundation fellow; SCIASWurzburg Univ. fellow------



CITATION

Enock Olugbenga Oladepo DARE (EOOD) is presently the first Professor of Nanotechnology in Nigeria. He is a seasoned chemist, distinguished scholar and researcher of high repute. He holds a Ph.D in Chemistry of the University of Ilorin, Nigeria and Advanced Research Diploma (M.Eng.) in Chemical Engineering of Tokyo Institute of Technology, Japan. He had a postdoctoral training at Princeton University, NJ, USA. EOOD is an outstanding international scholar and widely travelled having visited all continents (over 30 countries) in the world through international collaboration cooperation. He is a UNESCO and MONBUSHO fellow (Japan); USAMI/FULBRIGHT fellow (Princeton University, USA); Taiwanese National Science Foundation fellow (Academia Sinica, Taiwan); ICTP, Trieste, Italy e.t.c. To crown it all, he recently got one of the world most prestigious Alexander von Humboldt (AvH) – Georg Forster fellowship which accorded him a fellow of SCIAS, Wurzburg University, Germany. In recognition of his excellent performance in Germany and as re-integration process, Humboldt further accorded him a "return fellowship" while in Nigeria in the year 2020 to advance his research mission in Forensic, Sensor and Bioimaging. EOOD is at the forefront of Nanotechnology research in Africa. He remains a major player in the Nigeria Nanotechnology Initiatives of 2006 that brought Nanotechnology into limelight in Nigeria. He has made excellent research output in organic-inorganic nanohybrids, photochemistry, sustainable chemistry, metal, metaloxide nanoparticles, surface chemistry, ceramic, drug delivery, polymerization, theoretical chemistry e.t.c leading to functional nanomaterials. His most current research lies on "nano-enabled fluorescent materials for forensic anticounterfeiting, latent fingerprinting, cellular bioimaging, and Triboelectric Nanogenerator powering food spoilage sensor. Furthermore, he is the brain behind the innovation behind a point-of-use nanoporous water purification technology that accorded him a national award as the 2nd best at the National Universities Research and Development Fair (NURESDEF 2012). It was on this note that EOOD feature occasionally on NUC-sponsored "voyage of discovery" AIT and NTA as he demonstrates the new technology. It is worth of note that several other awards, grants and commendations are to his credit. He was "Innovation and Invention" awardee of NASENI. The governing council of the Federal University of Agriculture, Abeokuta (FUNAAB) commended him "for breaking new grounds in Chemistry" in the year 2014. He is the author/coauthor of over 130 scientific publications (Citation 3041; h-index 28) (7 Patents inclusive). For example, the first invention with productive patent (United State of America Patent US 2024/0408010 A1) is about nanoemulsified phytodrug for transdermal treatment of diabetes. The second invention (United State of America Patent US Patent:11,065,602B2, World Intellectual Property Organization WIPO WO 2018/055566 Al and NOTAP Patents NG/2018/278) discovered novel nanofibrous sorbent with propensity to separate crude oil/water and total management of crude oil spill e.t.c. He has given more than 40 invited lectures (plenary and keynotes) at various conferences world-wide. EOOD recently presented the 78th Inaugural lecture of his University entitled "Nanotechnology as size-powered harbinger of the 21st century technological revolution. EOOD has produced 11 Doctors (Ph.Ds), some of whom has gained tenure at prestigious institutions nationally and internationally.

Administratively, EOOD was (1) Former Coordinator, Chemistry Department, FUNAAB (2) Former Head of Department, Chemistry, FUNAAB (3) Former Director of Academic Planning, Federal University Lafia where he pioneered the strategic planning activities of the University (4) Trained to acquire additional certificates in administration: (i) Teamwork, Innovation and Development and (ii) Strategic leadership.

He is grateful to God and his missionary parents (Bishop and Mrs A.S. Dare) and Elderstateman, Late Chief. Dr. Chris. Ogunbanjo, who contributed to his moral value and Prof. Wole Soboyejo for his mentorship.

01. PH	01. PERSONAL DATA						
(i)	Name in Full	:	DARE ENOCK O	LUGBENGA			
(ii)	Date of Birth	:	26 th . August, 1970				
(iii)	Place of Birth/State/LGA	:	Iree/Osun/Boripe				
(iv)	Sex	:	Male				
(v)	Marital Status	:	Married				
(vi)	Nationality	:	Nigerian				
(vii)	Website: https://funaab.edu.ng/dr-dare	-enock-	olugbenga/				
	www-oc.chemie.uni-regensbu	rg.de/di	az/members.php				
02	. (ii) EDUCATIONAL BACKGROUN	ND					
•	University of Ilorin, Ilorin	Chem	istry	B.Sc.	1989		
•	University of Ilorin, Ilorin	Synthe	etic Chemistry	M.Sc.	1993		
٠	Tokyo Institute of Technology, Tokyo	Chem	ical Engineering	Adv. Res. Dip.	2001		
•	University of Ilorin, Material Chemistry Ph.D.						
International Top Executive Training Program							
	(Teamwork, Innovation, Growth & Development)				2012		
•	Executive Training Programme						
	(Strategic leadership)				2013		

FELLOWSHIPS

FELLOWSHIPS:

- (a) MONBUSHO Fellowship (2000), Tokyo Institute of Technology, Tokyo, Japan
- (b) UNESCO Fellowship (2000), Tokyo Institute of Technology, Tokyo, Japan
- (c) Taiwan National Science Foundation Fellowship (2001), Academia Sinica, Taipei
- (d) USAMI Postdoctoral Visiting Fellowship (2008), Princeton University, NJ, USA
- (e) NANOAFNET Visiting Fellowship (2009), iThemba labs, Somerset West, South Africa.
- (f) National University of Singapore Fellowship (2011)
- (g) Regular Associate, ICTP, Trieste, Italy.
- (h) Alexander von Humboldt fellow (Georg Forster) (Regensburg University, Germany) 2017-2019
- (i) Alexander von Humboldt fellow (Renewed fellowship) (Wurzburg University, Germany)2021-2022

(iii)	Prizes, Honours, Scholarship, National and Interna	ational Recog	nition
a.	MiCom Foundation for Educational Development	-	1992
b.	MONBUSHO/UNESCO Fellowship:		
	Tokyo Institute of Technology, Japan	-	(2000-2001)
с.	Taiwan National Science Foundation Fellowship:		
	Institute of Chemistry, Academia Sinica,		
	Taipei, Taiwan	-	(2001-2003)
d.	Nanofluidics, ICTP, Trieste, Italy	-	2007
e.	USAMI/FULBRIGHT:		
	(US-AFRICA MATERIAL INSTITUTE AWARD)		
	Princeton University Princeton, NJ, USA.	-	(2008 – 2009)
f.	NANOAFNET		
	(NANOtechnology AFrica NETwork AWARD)		
	Ithemba Labs, Somerset West, South Africa;	-	2010
g.	Innovation and Invention Prize and Award		
	(NASENI – Federal Ministry of Science		
	and Technology)	-	2011
h.	National University Research and Development Fair		
	(NURESDEF 2012 RESEARCH AWARD)		
	(2 nd position) in NUC Individual Award in R & D	-	2012
i.	Alexander von Humboldt fellow (Georg Forster)		
	(Regensburg University, Germany)		2017-2019.
j.	Alexander von Humboldt (Renewed fellowship)		
	(Wurzburg University, Germany)		2021-2022

GRANTS

- 2006: RESDEC 2006 RESEARCH AWARD (RG 189), FEDERAL UNIVERSITY OF AGRIC. ABEOKUTA
- 2007: RESDEC 2007 RESEARCH AWARD (RG 194), FEDERAL UNIVERSITY OF AGRIC. ABEOKUTA
- 2008: RESDEC 2007 RESEARCH AWARD (RG 218), FEDERAL UNIVERSITY OF AGRIC. ABEOKUTA
- 2009: TWAS RESEARCH AWARD, GRANT NO. 08-003 LDC/CHE/AF/AC-UNESCO, FR:3240184280
- 2010: NATIONAL SCIENCE FOUNDATION, USA. (DMR 0231418); \$1,500,000. (In collaboration with Prof. Wole Soboyejo)

> 2013: TETFUNG FUNAAB GRANT OF N1.35 MILLION (DGM-01-2012)

> 2019: TETFUND, IBR

02. WORK EXPERIENCE

[1] NATIONAL WORKING EXPERIENCE

- (a) University/Institute Working Experience
 - (i) **Professor** (1st October 2015 till date)
 - (ii) Associate Professor (1ST October, 2012 Sept. 2015)

Department of Chemistry, Federal University of Agriculture, Abeokuta

- (b) National Agency for Science and Engineering Infrastructure (NASENI) [Research fellow] 2010- 2012
- (c) Center for Energy Research and Development (CERD), OAU, Ile-Ife [Research fellow] 2010-2012
- (d) Federal University Lafia, Nasarawa State (Sabbatical). Director of Academic Planning

(2012 - 2014)

[2] INTERNATIONAL WORKING EXPERIENCE

(a) MONBUSCHO/UNESCO Fellow

Tokyo Institute of Technology, Japan (Oct 2000 - Sept 2001

- (b) Research Assistant (Dec. 2001 Jan. 2003)
 Institute of Chemistry, Academia Sinica, Taipei, Taiwan.
 Duties: Research Assistant to Prof. Ling Kang Liu
- (c) Visiting Research Fellow (2008 2010)
 Department of Chemical Engineering, Princeton University, NJ, USA
 Duties: Research fellow and postgraduate project supervision.
- (d) Alexander von Humboldt Fellow (October 2017 June 2019):
 Regensburg University, Germany.
- (e) Alexander von Humboldt fellow and SCIAS fellow (Nov 2021- Jan 2021)
 Wurzburg University, Wurzburg, Germany

Details of Teaching Experience in the last two years

S/N	COURSE CODE	COURSE TITLE	NO. OF STUDENT	PARTICIPATION STATUS (%)
1	CHM 101	INTR. PHYSICAL CHEM	3100	19
2	CHM 104	INTR. INORG. CHEM	3100	19
3	CHM 191	PRACT. CHEM	2730	19
4	CHM 291	EXPTAL CHEM I	488	50

5	CHM 292	EXPTAL CHEM II	488	50
6	CHM 309	IND. RAW. MATER. RES. INV.	81	100
7	CHM 395	EXPTAL INORGANIC CHEM	72	50
8	CHM 408	IND. CHEM TECH.	83	100
9	CHM 491	ADV. EXPTAL CHEM	83	20

S/N	COURSE CODE	COURSE TITLE	NO. OF STUDENT	PARTICIPATION STATUS (%)
1	CHM 101	INTR. PHYSICAL CHEM	3300	19
2	CHM 191	PRACT. CHEM	2730	19
3	CHM 291	EXPTAL CHEM	488	50
4	CHM 309	IND. RAW. MATER. RES. INV.	488	50
5	CHM 408	IND. CHEM. TECH	78	100
6	CHM 413	MECH ORGANIC REACTION	78	100
7	CHM 745	ADV. IND. CHE. PROCESS	11	50
8	CHM 886	ADVANCED NANOTECHNOLOGY	11	2

POSTGRADUATE COURSES TAUGHT

S/N	COURSE CODE	COURSE TITLE	NO. OF STUDENT	PARTICIPATION STATUS (%)
1	CHM 745	ADV. IND. CHE. PROCESS	11	50
2	CHM 751	IND. CHEM. TECHN.	11	50
3	CHM 748	POLY TECHN.	10	50
4	CHM 753	ENVIRONMENTAL/WASTE MANAG	8	50
5	CHM 782	UNIT OPERATION/HEAT EXCHANGE	11	100
6	CHM 785	LABORATORY TECHNIQUES	11	50

03. SPECIAL ASSIGNMENTS / LEADERSHIP ROLE

- (i) **Head of Department of Chemistry**, Federal University of Agriculture, Abeokuta (2015 2017)
- (ii) Coordinator, Department of Chemistry, Federal University of Agriculture, Abeokuta (Feb. 2006 May 2006)
- (iii) **Coordinator**, Postgraduate Studies, Department of Chemistry FUNAAB (2006 2010)
- (iv) **Director of Academic Planning**, Federal University, Lafia, Nasarawa State (2012–2013)
- (v) Supervisor, Grand Challenges for water purification program for Eweje rural Community in Odeda local Government of Ogun state (<u>http://sig.ias.edu/files/pdfs/USAMI-RISE-</u> <u>Presentation.pdf).</u>
- (vi) Member of University Committees: Member, Equipment and Central Laboratory Committee (2006)
- (vii) Member, Research Ethic Development (2011) handled by IFSERAR
- (viii) **Member**, College linkage/partnership (2011)

- (ix) External Examiner: (M.Sc.Thesis) Department of Material and Engineering, Obafemi Awolowo University, Ile – Ife. (Appointment letter available)
- (x) **External Examiner**: (M.Sc.Thesis) Department of Physics, UNN, Nssuka
- (xi) External Examiner: (Ph.D. Thesis of Kibechu R.W.; Student No. 201249446), Faculty of Science, University of Johannesburg, South Africa. January 2016 (Professor Titus Msagati's student). (Appointment letter available)
- (xii) External Examiner: (Ph.D. Thesis of Sourbh R.W.; Student No. 2014494970), Faculty of Science, University of Johannesburg, South Africa. December 2016. (Prof. Tayo Arotiba's student) (Appointment letter available)
- (xiii) External Assessor: Appointed by the Presidency to assess Prof. Omowumi Sadik of New York State University, USA, for Nigerian National Merit Award (Appointment letter available)
- (xiv) External Examiner: (Ph.D. Thesis of Amrita Kaurwar (), Indian Institute of Technology, Jodhpur, Mechanical Engineering. June 2018.
- (xv) Nanotechnology Trainer: Invited as the sole trainer of over 200 academic from almost all Universities in Nigeria. Staffs from Universities and Research Institutes applied to be trained in the field of Nanotechnology in a workshop organized by National Agency for Science and Engineering Infrastructure.
- (xvi) Conference Plenary Lecturer: E.O. Dare (Invited Plenary lecture) "Sensor: Eye and Ear of a machine" at Nigerian Material Congress (NIMACON 2010)
- (xvii) Conference Plenary Lecturer: E.O. Dare (Invited Plenary lecturer) Nanobio and Bionano Technology: A revolution of functional Materials for a Sustainable "Soft Age" (NIMACON 2012) held at Centre for energy research and Development, Obafemi Awolowo University, Ile Ife. November 20 24, 2012.
- (xviii) Keynote speaker: LAUTECH Nanoconference 2017
- (xix) Conference Plenary Lecturer: E.O. Dare (Invited Plenary lecture: African International Conference/Workshopon Application of Nanotechnology for Energy,Environmentan and Health) July 16, 2018: Threatening Sociological – Environmental Nexus and Criminalities of all kinds, Nanotechnology's race to offer Forensic Mitigation to the Society
- (xx) **Nano**-conference Keynote Speaker: LAUTECH/NASDR 2022: The Narrative of transformation to circular economy via sustainable nanotechnology. Nov. 22-25, 2023
- (xxi) **Humboldt Kolleg 2023**: Plenary speaker: Circularity paradign: Roles of sustainable nanotechnology.
- (xxii) **78th Inaugural lectu**rer of my University (FUNAAB) entitled "Nanotechnology as sizepowered harbinger of the 21st century technological revolution". **June 21, 2023**.

04. TRAINING/TRAINER PROGRAMME ATTENDED (WITH DATES)

- (i) Grant winning proposal training program organized by RESDEC, UNAAB in 2006.
- (ii) Nanofluidic course at ICTP, Trieste, Italy (2007)
- (iii)**Nanotechnology Trainer**: Appointed as the sole **trainer** of over 200 scientists from various Universities/Institutes in Nigeria.
- (iv)International Top Executive Training Program (Teamwork, Innovation, Growth & Development) Held at M Plaza Hotel, Accra, Ghana, 26TH 30TH Nov. 2012.
- (v) Executive Training Programme (Strategic leadership) Held at Obudu Mountain Resort, July 24 – Aug 2, 2013.

05. COMMENDATION

(i) FUNNAB GOVERNING COUNCIL COMMENDATION (2014):

- Commendation Letter from the University Governing Council in 2014 for breaking new grounds in Chemistry
- (ii) Appreciation letter from the Federal University Lafia for the pioneering efforts as Acting Director of Academic Planning and contributions towards the University.

06.	MEMBERSHIP OF PROFESSIONAL BODIES				
a.	Material Society of Nigeria	(2005 till date)			
b.	Material Research Society, USA	(2010 till date)			
с.	Chemical Society of Nigeria	(2005 till date)			
d.	Royal Society of Chemistry	(2014 till date)			

07. RESEARCH INTEREST OR COMMISSIONED PROJECTS

Field of Research: Nanotechnology and Material Chemistry.

Over the years and till the present moment, I have engaged in productive research revolving around [1] organic-inorganic nonohybrids [2] Photochemistry [3] Sustainable chemistry [4] Metal, Metaloxide nanoparticles [5] Surface chemistry [6] Ceramic [7] Drug delivery [8] Polymerization and [9] Theoretical chemistry. The major precursor for [1] and [2] has been highly nanoscopic Polyhedral Oligomeric Silsesquioxane (POSS) whose structural anatomy is as shown

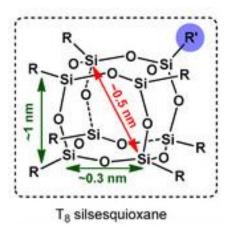


Figure 1: POSS anatomy

My holistic research dynamics leading to various functional materials for device application is as shown in figure 2. I have published in all the highlighted research tentacles.

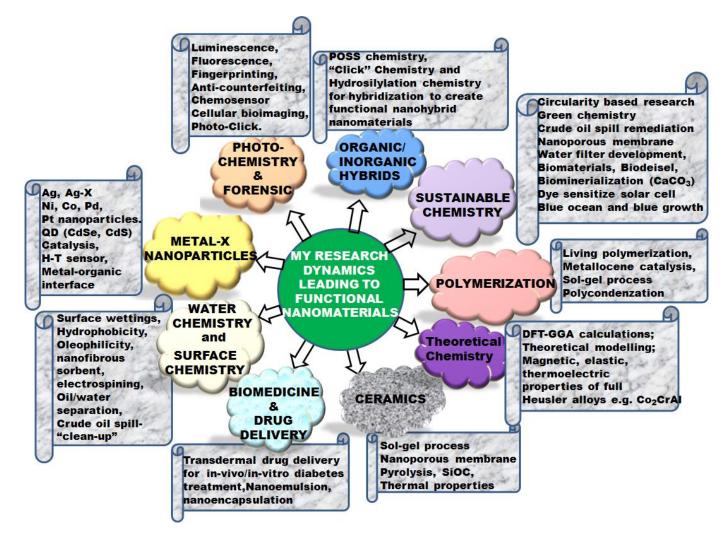


Figure 2: General overview of my research engagements overtime leading to functional nanomaterials

08. PUBLICATIONS

(ii) JOURNAL ARTICLES IN PRINT, BOOKS AND PATENTS

- Fatai Oladoyinbo, Dunni Elebiju, Fatai Akinwunmi, Onome Ejeromedoghene, Yakubu Adekunle Alli, Samson Alayande, Saliu Amolegbe, Adetunji Rasaq Olayide, David Diaz, Dare Enock (2024): Ceramic Bowl-Supported Nanofibrous Membrane with Fluorinated Silsesquioxane-inspired Switchable Surfaces for Successive Crude Oil/Water Separation and Secondary Water Treatment, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 686, 133224. <u>https://doi.org/10.1016/j.colsurfa.2024.133224</u>
- Samuel Kehinde, Oluwatobi Adelesi, Regina Ngozi Ugbaja, Enock Dare, and Oladipo Ademuyiwa (2024): Titanium dioxide nanoparticles induce energy perturbation by stimulating glycolytic metabolic profile in rats. *Life Sciences, Medicine and Biomedicine*. 8, 156. DOI <u>https://doi.org/10.28916/lsmb.8.1.2024.156</u>.
- Joseph Olugbojo, Adeolu Akinyemi, Samuel Olubodun and Dare Enock (2024): Comparative Studies on Antibacterial Potentials of Biosynthesized Cerium Oxide and Zinc Oxide Nanoparticles Against Fish Pathogens. Egyp. J. Aqua. Bio & Fisheries 28, 1733 – 1754.
- Joseph Olugbojo, Adeolu Akinyemi, Samuel Olubodun and Dare Enock (2024): Extraction and Utilization of Chitin and Chitosan from Waste Yields of Economically Important Crustaceans and Molluscs for Improved Fish Production. *Asian Journal of Fisheries and Aquatic Research* 26, 95-114. https://doi.org/10.9734/ajfar/2024/v26i8799
- Enock O. Dare,* T.F. Akinhanmi, J.A. Aremu, R.A. Adetunji, Janet T. Bamgbose, Victoria Vendrell-Criado, M. Consuelo Jiménez, Raúl Pérez-Ruiz, Sebastian Bonardd, David Díaz Díaz (2023): Dual-mode colorimetric/fluorescent chemosensor for Cu²⁺/Zn²⁺ and fingerprint imaging based on rhodamine ethylenediamine bis(triazolyl silsesquioxane) nanohybrid" Photochemical & Photobiological Sciences. <u>https://doi.org/10.1007/s43630-023-00395-4</u>
- Enoch Dare, Blessing Adanu-Ogbole, Fatai Oladoyinbo, Festus Makinde, Anthony Okechukwu Uzosike (2023): Synthesis and characterization of silver–zinc oxide nanocomposites for humidity sensing. *Nano Select*; 4, 255-262. DOI: 10.1002/nano.202200106. published byWiley-VCH GmbH.
- Abayomi Bamisaye, Catherine O. Eromosele, Enock O. Dare, Oluseyi A. Akinloye, Mopelola A. Idowu, Osasenaga M. Ighodaro and Sivakumar Manickam (2023): Fabrication, characterization, antimicrobial, toxicity and potential drug-delivery studies of PEGylated Sesamum indicum oil based nanoemulsion system. *Beni-Suef Univ J Basic Appl Sci*. 12:33. <u>https://doi.org/10.1186/s43088-023-00371-y</u>

- Oladoyinbo F.O.,Sanni F.O.,Akinwunmi F., Amusa K., Ganiyu S.A.,Ayinde W.B., Aremu J.A., Yusuf Q.O., Akinlabi A.K. and Dare E.O. (2023): Structural Investigation of Hetero-structured core-shell Ag-SiO₂ nanohybrid as a potential agro-sensor material. *J. Chem. Soc. Nig*, 48, 1000 -1013
- Solomon O. Olagunju, Muftau O. Atayese, Olalekan S. Sakariyawo and Enoch O. Dare (2022): Effects of multi-growth stage water deficit and orthosilicic acid fertiliser on lodging resistance of rice cultivars. Crop & Pasture Science. 73(4) 370-389 https://doi.org/10.1071/CP21563
- Dare, E. O.; Vendrell-Criado, V.; Jiménez, M. C.; Pérez- Ruiz, R.; Díaz Díaz, D. (2021): Highly efficient latent fingerprint detection by eight-dansyl-functionalized octasilsesquioxane nanohybrids. Dyes and Pigment, 184, 108841.

https://doi.org/10.1016/j.dyepig.2020.108841

- Dare, E. O.; Vendrell-Criado, V.; Jiménez, M. C.; Pérez- Ruiz, R.; Díaz Díaz, D. (2020): Novel fluorescent labeled octasilsesquioxanes nanohybrids as potential materials for latent fingerprinting detection. *Chemistry—A European Journal* 26, 13142 13146. doi.org/10.1002/chem.202001908
- Sunmonu, R.S., Akinlami, J.O., Dare, E.O., Adebayo, G.A. (2020): DFT GGA calculations of magnetic, elastic, thermodynamic and thermoelectric properties of Co₂YAl (Y = Ti, V) full Heusler alloy systems. *Materials Science & Engineering B* 262, 114739. https://doi.org/10.1016/j.mseb.2020.114739.
- 13.Solomon O. Olagunju, Muftau O. Atayese, Olalekan S. Sakariyawo, Enoch O. Dare & Adesola L. Nassir (2020): Culm Morphological Traits Contributing to Lodging Resistance in First Generation NERICA Cultivars Under Foliar Application of Orthosilicic Acid Fertilizer. *Silicon*. 1-15. <u>https://doi.org/10.1007/s12633-020-00652-6</u>
- 14. Olagunju S.O, Sakariyawo O.S, Atayese M.O, Dare E.O, Nassir A.L, Adesina E.H (2020) Analyses of grain yield components of selected upland rice grown in valley bottom soil under rates of foliar ortho- silicate acid fertiliser. *African Crop Sci J* 28(1):79–92. DOI: https://dx.doi.org/10.4314/acsj.v28i1.10
- 15. Labulo, A.H, Adesuji, E.T., Oseghale, C.O., Elemike, Usman A., Akinlabi, A.K. Dare, E.O. (2020): Effect of Benzophenone on the Physicochemical properties of Nitrogen-doped-CNT synthesized from 1-Ferrocenylmethyl(2-methylimidazole) Catalyst. J. Nig. Soc. Phys. Sci. 2 (2020) 205–217. DOI:10.46481/jnsps.2020.105
- Adesusi, O.M., Adetunji, O.R., Ismaila, S.O. *Dare, E.O.*(2020): Electrochemical Inhibitory Effects of Non-edible Vegetable Oils on Low-Alloyed Low Carbon Steel in H₂SO₄. *J Fail. Anal. and Preven.* 20, 159–172. <u>https://doi.org/10.1007/s11668-020-00808-x</u>

- 17. Oyesolape B. Oyelaja-Akinsipo, Enock O. Dare, Deepshikha P. Katare (2020): Protective role of diosgenin against hyperglycaemia-mediated cerebral ischemic brain injury in zebrafish model of type II diabetes mellitus. *Heliyon*, 6, e03296, 1-10.
- 18. Anuoluwa Abimbola Akinsiku, Olayinka Oyewale Ajani, Joseph Adeyemi Adekoya, Moses Eterigho Emetere and Enock Olugbenga Dare (2020). Green Synthesis of triclinic (anorthic) phase AgCoPO₄ nanoparticles: Optical studies and theoretical modelling. *Heliyon*, 6, e05029
- Anuoluwa Abimbola Akinsiku, Joseph Adeyemi Adekoya, Olayinka Oyewale Ajani, Enock Olugbenga Dare (2020). Nicotiana tabacum Mediated Green Synthesis of Silver Nanoparticles and Ag-Ni Nanohybrid: Optical and Antimicrobial Efficiency. *Indones. J. Chem*. 21, 179 – 191.
- Olanrewaju M. Adesusi . Olayide R. Adetunji . Salami O. Ismaila . Enock O. Dare. Tunji J. Erinle . Olumide O. Akinpelu (2020): Electrochemical Inhibitory Effects of Non-edible Vegetable Oils on Low-Alloyed Low Carbon Steel in H₂SO4. *J Fail. Anal. and Preven*. 64, 1-14. <u>https://doi.org/10.1007/s11668-020-00808-x</u>
- 21. R.S. Sunmonu, J.O. Akinlami, E.O. Dare and G.A. Adebayo (2019): Effects of Y atom substitution on the structural, magnetic, electronic, elastic, mechanical, thermodynamic and thermoelectric properties of Co₂YAl (Y = Cr, Mn) Full Heusler alloys from first principles investigations. *Computational Condensed Matter* 21, 00412. <u>https://doi.org/10.1016/j.cocom.2019.e00412</u>. http://ees.elsevier.com/cocom/default .asp
- 22. Anuoluwa Abimbola Akinsiku, Kolawole Oluseyi Ajanaku, Joseph Adeyemi Adekoya, Samue Oluwakayode Ajayi, Moses Eterigho Emetere, Enock Olugbenga Dare (2019): Combined green synthesis and theoretical study of Ag/Co nanoparticles from biomass materials. *Applied Physics A: Materials Science and Processing*. 125:643. https://doi.org/10.1007/s00339-019-2931-z
- 23. Anuoluwa Abimbola Akinsiku, Enock Olugbenga Dare, OlayinkaOyewaleAjani, Joseph Adeyemi Adekoya, Alaba Oladipupo Adeyemi, Oluwaseun Ejilude, Kehinde David Oyeyemi (2018): Dataset on the evaluation of antimicrobial activity and optical properties of green synthesized silver and its allied bimetallic nanoparticles. *Data in Brief 21 (2018) 989–995*. https://doi.org/10.1016/j.dib.2018.10.054. www.elsevier.com/locate/dib
- Bamgbose, M.K., Adebambo, Adebambo, P.O.; Solola G. T.; Badmus, B.S.; Dare, E. O.; Akinlami, J. O. and Adebayo, G. A. (2018): First-principles study of zinc-blende B_xAl_yGa_{1-x-y}N.: Alchemical mixing approximation approach *Materials Letters* 221, 330 – 335. https://doi.org/10.1142/S0217979216501915.
- 25. Ajenifuja E., Alayande S.O., Aromolaran O.A., Dare, E. O. Msagati T.A.M (2017): Equilibrium kinetics study of electrospun polystyrene and polystyrene-zeolite fibres for crude oil-water separation. Journal of Water Process Engineering 19, 253-259. (Elsevier)

- 26. A.A. Akinsiku, E.O. Dare, K. O. Ajanaku, O. O. Ajani, J. A.O. Olugbuyiro, T. O. Siyanbola, O. Ejilude, M. E. Emetere (2018a): Modeling and synthesis of Ag and Ag/Ni allied bimetallic nanoparticles by green method: Optical and biological properties. *International Journal of Biomaterials*, (2018a), Article ID 9658080, 17 pages
- 27. A. A. Akinsiku, E. O. Dare, K. O. Ajanaku, J. A. Adekoya, J. Ayo-Ajayi, (2018b): Green synthesized optically active organically capped silver nanoparticles using stem extract of African cucumber (*Momordica charantia*). *Journal of Materials and Environmental Science*, 9, 3, 902-908.
- Sodeinde, K.O., Dare, E.O. Lasisi, A.A., Ayanda, O.S., Nelana S., Naidoo E.B., Lawal, O.S., and Revaprasadu, N. (2018) Highly Sensitive Colorimetric Sensing of Mercury (II) Ions by Green Synthesized Gold Nanoparticles. *Nanosistemi, Nanomateriali, Nanotehnologii* 16, 403–412.
- 29. Bamisaye O. A., Eromosele C. O., Oladoyinbo F. O., Akinloye O. A. & Dare O. E. (2017): Development of oil-in-water (o/w) nanoemulsion formulations for spontaneous transdermal delivery of ciprofloxacin. *Covenant Journal of Physical & Life Sciences* (CJPL) 5, 2.
- 30. Sonde O.I., Peleyeju M.J., Oladoyinbo F.O., Oloyede, A.R., Afolabi, T.A., Adesokan A., Arotiba, O.A. and Dare, E.O. (2017): Exfoliated graphite/selenium-ZnO nanocomposites for photodegradation of organic dyes in water and its antibacterial activity against water borne pathogens. Journal of Nanoanalysis 4, 41-47.
- 31. **D. A. Bada, W. B. Ayinde, E. O. Dare, S. O. Alayande, F. Oladoyinbo, M. A. Idowu and A. A. Bolaji, Ezeh M.I (2017) Dye Modified ZnO Nanohybrids: Optical Properties of the Potential Solar Cell Nanocomposite *International Nano letter* DOI 10.1007/s40089-017-0211-5
- 32. # S. Oluwagbemiga Alayande, Dare E.O., Akinlabi A.K., Msagati T.A.M., (2017): Novel electrospun superhydrophobic sorbent for petroleum fingerprinting analysis. *Polymer Bulletin*. DOI 10.1007/s00289-017-2036-9. Springer-Verlag Berlin Heidelberg 2017.
- Bamgbose, M. K.; Adebambo, P.O.; Badmus, B.S.; Dare, E. O.; Akinlami, J. O. and Adebayo, G. A. (2016): First-principles study of zinc-blende B_xAl_yIn_{1-x-y}N Quaternary alloy: Alchemical Mixing Approximation Approach International Journal of Modern Physics B Vol. 30 (2016) 1650191 (13 pages) World Scientific Publishing Company. DOI: 10.1142/S0217979216501915
- 34. Akinsipo, B., Ayinde, W., Alayande, S., Ogunbayo, B., Oladoyinbo, F., Aiyedun P and Dare E.O. (2016) Functionalized chitosan-magnetite nanocomposites for in-vitro controlled drug delivery. *Journal of Chemical Society of Nigeria* 41, 1-5. http://journals.chemsociety.org.ng/index.php/jcsn/article/view/61

35. Sonde O.I., Ogungbesan S.O., Olaniyan J.O., Oloyede A.R., Idowu M.A., Afolabi T.A. and Dare E.
 O. (2016) Preparation, Release Pattern and Antibacterial Activities of Chitosan – Silver Nanocomposite Films. *Covenant Journal of Physical & Life Sciences*, 4, 18 – 27.

a. http://journals.covenantuniversity.edu.ng/index.php/cjpls/article/view/406

- 36. **J. A. Adekoya, E. O. Dare, K. O. Ogunniran, T. O. Siyanbola, O. O. Ajani, C. O. Ehi Eromosele and N. Revaprasadu (2016). The Effect of polyol on Multiple Ligand Capped Silver Allied Nanobimetallic Particles via tri-n-octylphosphine oxide and oleic acid Matrices. *Advances in Natural Sciences: Nanoscience and Nanotechnology.* 7, 045012, 1-11. doi:10.1088/2043-6262/7/4/045012
- 37. **S. Oluwagbemiga Alayande, Nyoni Hlengilizwe, Dare E.O., Akinlabi A.K., Msagati T.A.M., (2016) Novel Nanoporous Sorbent for Solid Phase Extraction in Petroleum Fingerprinting. *Applied Physics A: Materials Science and Processing* 122: 392 DOI 10.1007/s00339-016-9931-z. Springer-Verlag Berlin Heidelberg 2016.
- **Olayinka J. Olaniyan, Enock O. Dare, Olayide R. Adetunji, Omolola O. Adedeji and **Shephrah
 O. Ogungbesan (2016): Synthesis and Characterization of Chitosan-Silver Nanocomposite Film.
 Nano Hybrids and Composites. 11, 22-29. doi:10.4028/www.scientific.net/NHC.11.22.
- 39. **S. Oluwagbemiga Alayande, E. Olugbenga Dare, Titus A.M. Msagati, A. Kehinde Akinlabi, and P.O. Aiyedun (2016) Electrospun Expanded Polystrene and Expanded Polysytrene-Zeolite Fiber with Superhydrophobic and Superoleophillic Surface Properties for Crude Oil-Water Separation. (*Journal of Physics and Chemistry of the Earth*, 92, 7-13. DOI 10.1016/j.pce. 201510.002) journal homepage: www.elsevier.com/locate/pce
- 40. ** S. Oluwagbemiga Alayande, F.O.G. Olorundare., D. Nkosi E. Olugbenga Dare, Titus A.M. Msagati, B.B. Mamba, (2016) Electrospun Exfoliated Graphene/Expanded Polystrene Fibre for Crude Oil Removal in Water. (*Journal of Physics and Chemistry of the Earth*, 92, 3 6. DOI 10.1016/j.pce. 2015.09.004) journal homepage: <u>www.elsevier.com/locate/pce</u>
- 41. **Elias E. Elemike, Enock O. Dare, Inyang D. Samuel, Jude C. Onwuka (2016) 2 Imino (3,4-dimethoxybenzyl) ethanesulfonic acid Schiff base anchored silver nanocomplex mediated by sugarcane juice and their antibacterial activities. *Journal of Applied Research and Technology*, 14, 38-46. DOI:10.1016/j.jart.2015.12.001, <u>www.sciencedirect.com</u>. Published by Elsevier.
- 42. **Labulo A. H., Adesuyi T. E., Oseghale C. O., Omojola J. Bodede O.S., Roshila M. Nyamori V. and Dare, E. O. (2016): A dual purpose silver nanoparticles biosynthesized using aqueous leaf extract of Detarium microcarpum: An under-utilized species. Talanta, 160, 735 744. www.elsevier.com/locate/talanta. http://dx.doi.org/10.1016/j.talanta2016.07.066.
- 43. **Labulo A. H., Adesuyi T. E., Oseghale C. O., Omojola J. Bodede O.S., **Akinsiku A.A. and Dare, E. O. (2016) Biosynthesis of Silver nanoparticles using Garcinia Kola and its Antimicrobial

potential. African Journal of Pure and Applied Chemistry 10, 1 – 7. Published by Academic Journals. DOI: 10.5897/AJPAC2015.0650

- 44. **Akinsiku Anuoluwa, Ajanaku O. Kolawole, Adekoya A. Joseph, Samson O. Alayande and Adeyemi O. Alaba Enock O. Dare (2016) Synthesis of Silver Nanoparticles using Canna Indica and Senna Occidentalis Leaf Extracts: Optical and Biological Properties *Journal of Bionanoscience* 10, 163 - 245 American Scientific Publishers, USA. <u>http://www.aspbs.com/jbns/</u>
- 45. **Sodeinde, K.O., E.O. Dare, A.A. Lasisi, and N. Revaprasadu (2016) Biosynthesis, Characterization and Material Applications of Gold, Silver, and Palladium Nanoparticles using Aqueous Extract of *Basella alba* Leaves (Basesellaceae) *The Pacific Journal of Science and Technology 17, 170-176.* <u>http://www.akamaiuniversity.us/PJST.htm</u>. Published at Akamai University, USA
- 46. **Sodeinde K.O., E.O. Dare, A.A. Lasisi, P. Ndugu, and N. Revaprasadu (2016) Green Synthesis of Ag, Au, and Au-Ag Bimetallic nanoparticles using *Chrysophyllum albidum* Aqueous Extract for Catalytic Application of Electro-Oxidation of Methanol. *The Pacific Journal of Science and Technology 17, 156-169.* <u>http://www.akamaiuniversity.us/PJST.htm</u>. Published at Akamai University, USA
- 47. Adetunji R. Olayide, Oluwadare J. Onwuka O. Ude , Enock O. Dare, Kamol O. Alamu Sunday A. Afolalu (2016) Potentiodynamic Polarization of Brass, Stainless and Coated Mild Steel in 1 M Sodium Chloride Solution *International Journal of Engineering Research* 23, 1 6. doi:10.4028/www.scientific.net/JERA.23.1. 2016 Trans Tech Publications, Switzerland
- 48. Adetunji R. Olayide, Oluwadare J. Akinyemi, Sidika I. Kuye and Enock O. Dare (2016) Corrosion performance of aluminum zinc coated steel in tomato, orange and pineapple juices *Prosimy cytować jako / Please cite as: Ochrona przed Korozją* 59 (3) : 66–69 DOI: 10.15199/40.2016.3.2 (Published in Poland).
- 49. **S.A. Olubayode, O.S. Awokola, E.O. Dare and O.T. Olateju (2016) Suitability of Selected Nigerian Clay Deposit for Production of Clay Based Ceramic Water Filters. *American Chemical Science Journal*, 12 (3) 1 7. Available online at <u>www.sciencedomain.org</u>.
- 50. Dare Enock Olugbenga, Oseghale Charles Ojiefoh, Labulo Ayomide Hassan, Adesuji Elijah Temitope. Elemike Elias Emeka, Onwuka Jude Chinedu and Janet Titilayo Bamgbose (2015): Green Synthesis and Growth Kinetics of Nanosilver under bio-diversified plant extracts influence. *Journal of Nanostructure in Chemistry* 5, 85 94. Published by Springer in the UK. Available online at www.jnanochem.com DOI 10.1007/s40097-014-0139-5.
- 51. **Joseph Adekoya, Dare, E. O. Mesubi, M. and Neerish Revaprasadu (2015): Synthesis and characterization of polyol stabilized Ag/Co allied nanocomposites. *Superlattices and*

Microstructures 78, 97–105 Published by Elsevier, UK. Available online at <u>www.elsevier.com/locate/superlattices</u> http://dx.doi.org/10.1016/j.spmi.2014.11.02.

- 52. **Adekoya J. A., Dare E. O., Mesubi M. A., Nejo A. A., Swart H. C. and Revaprasadu N. (2015): Facile Route to the Synthesis and Characterization of Novel Core – Shell and Ag/Ru Allied Nanocomposite. *Physica E Low dimensional Systems and Nanostructures* 71, 70–78 Published by Elsevier, Germany. Availble online at www.elsevier.com/locate/physe. http://dx.doi.org/10.1016/j.physe.2015.03.026
- 53. **J. A. Adekoya, E. O. Dare, K. O. Ogunniran, T. O. Siyanbola, O. O. Ajani, C. O. Ehi Eromosele, I. O. Olanrewaju and N. Revaprasadu (2015). Tandem synthesis of some high indexed monometal nanoparticles in the presence of polyols, poly(vinylpyrrolidone), trisodium citrate and dodecanethiol matrices. *Digest Journal of Nanomaterials and Biostructures*, 10(4) 1311 – 1327 (Thomson Reuter Indexed; IF=0.945).
- 54. **Joseph Adeyemi Adekoya, Enock Olugbenga Dare, Michael Adediran Mesubi, and Neerish Revaprasadu (2015). Polyol Mediated Hexadecylamine Capped Silver Allied Nanobimetallic Particles and their Fluxional Properties. *Journal of Physics and Chemistry of Solids*, 86, 155-161 (Thomson Reuter Indexed; IF=1.918). http://www.sciencedirect.com/science/journal/aip/00223697
- 55. Bamgbose, J. T., Nkiko, M, Bamigbade, A., and Dare, E.O. (2014): Swelling Equilibrium Studies of Chitosan and tripolyphosphate crosslinked chitosan film in a surfactant. *Ife Journal of Science* 15, 210-225. Published by AJOL, South Africa for OAU, Ile-Ife Available online at www.ajol.info/index.php/ijs
- 56. Akintokun A.K., Adeyemo O.J. Balogun S.A., Dare E.O., Amolegbe S.A. and Bamgbola A.A. (2013): Biodegradation Potential of Fungi Isolated from Soil on Fossil Diesel and Biodiesel. *Ife Journal of Science* 15, 543. Published by AJOL, South Africa for OAU, Ile-Ife Available online at www.ajol.info/index.php/ijs
- 57. Bamgbose, J.T., Nkiko, M, Bamigbade, A., and Dare, E.O. (2014): Kinetic of Adsorption of Malachite green onto chitosan sodium citrate beads. *Ife Journal of Science* 15 (2) 321-332. Published by AJOL, South Africa for OAU, Ile-Ife Available online at www.ajol.info/index.php/ijs
- 58. Bamgbose, J.T., Nkiko, M, Bamigbade, A., and Dare, E.O. (2014): Interactions of Cross-linked and uncross-linked Chitosan Hydrogels with Surfactants for Biomedical Applications. *Ife Journal of Science* 16, 341-351. Published by ALOL, South Africa for OAU, Ile-Ife Available online at www.ajol.info/index.php/ijs
- 59. **Elemike Elias Emeka, Adesuyi Elijah, Chukwu Aleruchi, Dare Enock O., Labulo Hassan Ayomide, Owoseni Mojisola Christiana, Oseghale Charles Ojiefor, Mfon Rebecca (2014): Evaluation of Antibacterial Activities of Silver Nanoparticles Green Synthesized Using Pineapple

Leaf Extracts. *Micron* 57, 1 – 5. Published by Elsevier in the UK. Available online at <u>http://dx.doi.org/10.1016/j.micron.2013.09.003</u>

- 60. **Adekoya J. A., Dare E. O., Mesubi M. A., Nejo A. A., Swart H. C. and Revaprasadu N. (2014): Synthesis of polyol based Ag/Pd Nanocomposites for applications in catalysis. *Results in Physics* 4, 12 – 19. Published by Elsevier in the UK. Available online at http://dx.doi.org/10.1016/j.rinp.2014.02.002.
- 61. **Adekoya, J. A., Dare, E. O. Mesubi, M. A. & Revaprasadu N (2014): Synthesis and Characterization of Optically Active Fractal Seed Mediated Silver – Nickel Bimetallic Nanoparticles *Journal of Materials*, 2014, 1 – 10. Published by Hindawi. Available online at <u>http://dx.doi.org/10.1155/2014/184216</u>.
- 62. **Joseph A. Adekoya, Enock O. Dare, Kehinde O. Ogunniran, Tolulope O. Siyanbola, Anuoluwapo A. Akinsinku, Cyril Eromosele and Winfred U. Anake (2014): Facile Route to Synthesis of Organically Capped Size controlled Silver Nanoparticles. *International Journal of Science and Engineering Research* 5, 1220 - 1226. Published by IJSER in the UK. Available online at www.ijser/ResearchPaperPublishing_June2013_Paper3.aspx
- 63. **Adekoya J. A., Dare E. O., Mesubi M. A., Nejo A. A., Swart H. C. and Revaprasadu N. (2014): Tunable Morphological Properties of Silver Enriched Platinum Allied Nanoparticles for Catalytic reduction of p – nitrophenol *Advanced Natural Science: Nanoscience and Nanotechnology* 5, 1- 6 Published by IOP Science, Institute of Physics, UK Available online at <u>www.iopscience.iop.org</u> doi:10.1088/2043-6262/5/3/035007.
- 64. Adesuyi Elijah, Elemike Elias Emeka, Chukwu Aleruchi, Dare Enock.O, Labulo Hassan Ayomide, Owoseni Mojisola Christiana, Oseghale Charles Ojiefor, Mfon Rebecca (2013): Synthesis of Silver Nanoparticles using Alcoholic Beverages from Nigeria Market. International Journal of Nanotechnology and Material Science 2, 25 - 35, Published by Modern Scientific Press, Florida, USA. Available online at www.ModernScientificPress.com/Journals/ijnanos.aspx
- 65. **Anuoluwa A. Akinsiku, Enock O. Dare, Michael S. Ayodele, Fatai O. Oladoyinbo, Kehinde A. Akinlabi (2013): Biodiesel Fuel from Differently Sourced Local Seed oils: Characterization, Effect of Catalysts, Total glycerol content and Flow rates. *International Journal of Science & Engineering Research* 4, 654–664. *Published by IJSER in USA*. Available online at www.ijser/ResearchPaperPublishing_June2013_Paper3.aspx
- 66. **Alayande, S. O. Dare, E. O. Akinlabi, A. K. Fasasi, A. Y. & Osinkolu, G. A. (2013): Nanostructuring of polystyrene waste *Journal of Chemical Society of Nigeria* 38, 2,79-82. Published by Chemical Society of Nigeria, Nigeria.

- 67. **Alayande, S. O., Dare, E. O. Akinlabi, A. K. Ayinde, W. B. & Osinkolu, G. A. Preparation of nanoporous silica from bagasse (2013): *Journal of Chemical Society of Nigeria* 38, 2, 28-31. Published by Chemical Society of Nigeria, Nigeria.
- 68. Bamgbose, J. T. Bamgbose, A. A. Adewuyi, S. Dare, E. O. Lasisi A. A. and Njah, A. N. (2012): Equilibrium Swelling and Kinetic Studies of Highly Swollen Chitosan Film. *Journal of Chemistry and Chemical Engineering* 6, 272 – 283. Published by DPC, New York, USA. Available online at <u>http://www.davidpublishing.com</u>
- 69. **Alayande, S. O. Dare, E. O., **Ayinde, W.B. J. T. Bamgbose, P. A. Ayedun and G.A. Osinkolu (2012) Development of Ordered and Disordered Macroporous Silica from Bagasse Ash. *African Journal of Pure and Applied Chemistry* 6, 10 14. Published by Academic Journals

Nairobi, Kenya. Available online at <u>www.academicjournals.org/AJPAC</u>.

- 70. **Alayande, S.O. Olatunbosun, S. Adedoyin, O. Deborah, O. Sanda, O. Fasasi, A. Dare, E. O. Osinkolu, G. Ajao G. & Pelemo D. (2012): Porous and non porous Electrospun Nanofibres from Discarded Polystyrene, *International Journal of Physical Sciences* 7, 1832 1836. Published by Academic Journals in UK. Available online at www.academicjournals.org/AJPAC)
- Oyatogun, G. M., Esan, T. A., Oziegbe, E. O., Adebiyi, K.E., Togun, R.A. Dare, E. O., Adeoye, M.O. (2012): Processing, Characterization and Investigation of Suitability of Cowry Shells Nanocomposite for Bone Graft Application. *J. Osteology and Biomaterial 3*, 21 – 29. Published by <u>www.sciencemedia.de</u> (Science media, Germany, Available online at <u>www.osteobiom.com</u>
- Dare E. O., Makinde, O.Wasiu, Ogundele, K.Temitope, Osinkolu, Gabriel Fasasi Y.A, Sonde Idowu, Bamgbose J.Titilayo. A. K. Akinlabi, Maaza Malik, Sithole Joseph, Ezema Febian, Adewoye O.Olusegun (2012): Zinc Salt Mediated Synthesis, Growth Kinetics and Shaped Evolution of Silver Nanoparticles, *ISRN Nanomaterials 2012, 1–8. Published by Hindawi*. Available online at <u>www.hindawi.com/journals/isrn/contents/isrn.nanomaterials/</u> <u>doi:10.5402/2012/376940</u>
- 73. **Alayande, S. O. Dare, E. O. Akinlabi, A. K. Ajao, J.A. Pelemo, D. A. Fasasi A. Y. & G.A. Osinkolu (2012): Recycling of Expanded Polystyrene via Electrospinning Technique. *Material Science and Technology Society of Nigeria* 3, 71 75. Published by MSN in Nigeria. Available online at <u>www.msn-ng.org</u>
- 74. Lasisi, A.A., Olayiwola M.A., Dare, E.O. (2012) Evaluation of Anthelmintic Activity of the Stem Bark Extract of Bridelia Ferruginae (Benth) Euphorbiaceae. *International Journal of Chemical Sciences* 5. (1) 72 78. Published by the Department of Chemistry, Nasarawa state University. Available online at <u>www.ijcsnsuk.org</u>.
- 75. Akinlabi, A. K. Olayinka, O. M. & Dare, E. O. (2011): The use of Pterocarpus santalinoides in rubber compounding, Scientific Research and Essays 6, 516 521. Published by Academic journals in UK. Available online at <u>www.academicjournals.org/SRE</u>

- 76. Akinlabi, A. K. Olayinka, O. M. and Dare, E. O. & O.M. Oyenekan (2011): Mechanical Properties of Rubber Blends filled with Carbonized Pteriocarpus Santalinoides Seed Shell. *Nigerian Journal of Polymer Science and Technology* 7, 1 13. Published by Polymer Society of Nigeria in Nigeria
- 77. Lasisi, A. Ojo, D. A. Dare, E. O. Olayiwola, M. A. Adebisi, S. A. (2011) In vitro Anthelmintic and Antibacterial Properties of the Leaf Hexane Isolate of Pyrenachantha staudtii EngL (ICACINACEAE). J. Herbal Practice and Technology 1, 6 12. Publisher by WOAJ in UK . Available online at www.woaj.org/HHP
- 78. Lasisi A.A., Folarin O.M., Dare E.O., Akinloye O.A. and Fisuyi M.O. (2011): Phytochemical, Antibacterial and Cytotoxic Evaluation of Raphiostylis beninensis (Hook F. Planch) Stem back extracts. *International Journal of Pharma and Biosciences*, 2, 489 – 495. Published by Scopus Journametric. CODEN IJPBJ2 in India. Chemical Abstract Service (USA). Available online at <u>www.ijpbs.net</u>
- 79. Plappally, A. Chen, H. Ayinde, W., Alayande, S., Usoro, A. Friedman, K. Dare, E. Ogunyale, T. Yakub, I. Leftwick, M. Malatesta, K. Rivera, R. Brown, L. Soboyejo, A. & Soboyejo, W. (2011) A Field Study on the Use of Clay Ceramic Water Filters and Influences on the General Health in Nigeria. Journal of Health Behaviour and Public Health 1(1): 1-14 Published by Academy journals, USA. Available online at www.academyjournal.net.
- 80. Dare, E. O. (2010) 1H and 31P NMR Monitored Cross metathesis Reaction of Octavinylsilsesquioxane Hybrid Nanocomposite with Ruthenium Carbene: Possibility for Multifunctional Octasilsesquioxane Derivatives. *African Journal of Pure and Applied Chemistry* 4. 173-176. Published by Academic journal, Nairobi, Kenya. Available online at www.academicjournals.org/AJPAC.
- 81. Akinlabi, A. K. Oyenekan, O. M. Dare, E. O. & Olayinka, O. M. (2010): Degradation Studies of low Molecular Weight Natural Rubber Blends in Oven, Ozone, Water and Some Organic Solvents. *Nigerian Journal of Applied Sciences* 28, 46 55. Published by Academy journals in Nigeria. Available online at <u>www.scopemed.org</u>.
- 82. Adegbola, R. A. Dare, E. O. & Lasisi, A. A. (2008): Spray reagents for the visualization of unsaponifiable in sesanum indicum on thin-layer chromatography, *Chromatographia* 68, 151-153
 Published by Springer, Germany. Available online at www.link.springer.com/article/10.1365/s10337-008-0660-0
- 83. Bamgbose, J. T., Dare, E. O. Samuel B. J. and J. C. Ajaelu (2007): Swelling equilibrium and sorption kinetic of polyvinyl acetate film, *Journal of Chemical Society of Nigeria* 32, 144-150. *Published by Chemical Society of Nigeria.*
- 84. **Dare**, **E. O.** and Ajibola, A. S. (2007): Benzil and Benzoin: General spray reagents for the visualization of organic material on thin-layer Chromatograms, *Chromatographia*, 66, 823-825.

Published by Springer, Germany

www.link.springer.com/article/10.1365/s10337-007-0383-7

- 85. Dare, E. O. and Ling-Kang Liu (2006): Organosilicon Chemistry I: Cyclopropanation by Carbene or Carbenoid Addition to an Allylic Silane. *Bulletin of the Chemical Society of Ethiopia* 20, 55-60. Published by Chemical Society of Ethiopia. Available online at www.ajol.info/index.php/bcse/index
- 86. Dare, E. O. Olatunji, G. A. & Ogunniyi, D. S. Oguntoye, S. O. & Bamgbose, J. T. (2006): Living Copolymerization of Propylene and Ethylene with [t-BuNSiMe₂Flu]TiMe₂/ MAO Catalyst system: Effect of MAO/Ti ratio. *Journal of Scientific and Industrial Research* 65, 578. Published in India by Indian science (NISCAIR) Available online at <u>www.nopr.niscair.res.in</u>
- 87. Dare, E. O. (2006) Synthesis of Some new Functionalized Octasilsesquioxane Hybrid Nanocomposites. III. Potential of the Octameric Clusters as Hydraulic and Lubricating Fluid. *Turkish Journal of Chemistry* 30, 385. Published by Scientific and Research council of Turkey.

Available online at <u>www.journas.tubitak.gov.tr/chem/issues/kim-06-30-5/kim-30-5-6-</u> 0602-4.pdf

- 88. Dare, E. O. Ling-Kang Liu and James Peng, (2006): Modified Procedure for improved Synthesis of Octameric Silsesquioxanes via Hydrolytic polycondensation in the presence of Amberlite ion-exchange resins, *Dalton Transaction* 3668 3671. Published by Royal Society of Chemistry, Cambridge University, UK. Available online at <u>www.rsc.org/dalton</u> DOI:10.1039/b603325c
- 89. Dare, E. O. Olatunji, G. A. & Ogunniyi, D. S. (2005) Octasilsesquioxane as Hybrid Nanocomposite Platforms. II. Synthesis, Characterization and Ceramic Properties of some Alkyl-functionalized Silsesquioxanes. *Polish Journal of Chemistry* 79, 101–107. Published by "Versita" Polish Chemical Society, Poland. Available online at www.ichf.edu.pl/pjch
- 90. Dare, E. O. Olatunji, G. A. Ogunniyi, D. S. & Lasisi A.A. (2005): New Routes to Functionalized Polyhedral Oligomeric Silsesquioxanes via Friedel-Crafts Alkylation and Dichlorocarbene Addition to Octavinysilsesquioxane. *Polish Journal of Chemistry* 79, 109–114. Published by"Versita" Polish Chemical Society, Poland . Available online at (<u>www.ichf.edu.pl/pjch</u>
- 91. Dare, E. O. Olatunji, G. A. & Ogunniyi, D. S. (2004): Organic/inorganic Hybrid material. I. Synthesis, Characterization and thermal property of a novel polyhedral cubic Silsesquioxane. *Journal of Applied Polymer Science* 93, 907-910. Published by Wiley Interscience in Oxford, UK. Available online at <u>www.interscience.wiley.com</u> DOI 10.1002/app.20530
- Ling-Kang Liu and Dare, E.O. (2004) Octasilsesquioxane chemistry II. hydrosilylation reaction of octa(hydrido)silsesquioxane with unsaturated substrates and product properties. *J. Chin. Chem. Soc.* 51: 175-182.

- 93. Nishii, K. Matsumae, T. & Dare, E. O. & T. Shiono, T. Ikeda, (2004): Effect of solvent on living Polymerization of Propene with [t-BuNSIMe₂ Flu]TiMe₂-MMAO catalyst system. *Macromolecular Chemistry and Physics* 205, 363-369. Published by Wiley-VCH in Germany. Available online at (www.mcp-journal.de) DOI:10.1002/macp.200300137.
- 94. Dare, E. O. Olatunji, G. A. & D. S. Ogunniyi (2004): Polymerization behaviour of Propene with [t-BuNSIMe₂Flu]TiMe₂: Effect of solvent and Cocatalyst. *European Polymer Journal* 40, 2333-2341. Published by Elsevier in Germany. Available online at <u>www.elsevier.com/locate/europolj</u> doi:10.1016/j.eurpolymj.2004.05.014
- 95. Dare, E. O. Olatunji, G. A. & Ogunniyi, D. S. (2004): Polymerization of Propene with Me₂Si(Me₄C_p)(t-BuN)TiMe₂: Effects of Trialkylaluminium as Additive. *Bulletin of the Chemical Society of Ethiopia* 18, 131-141. Published by Chemical Society of Ethiopia, Ethiopia. Available online at Available online at <u>www.ajol.info/index.php/bcse/index</u>
- 96. Olatunji G. A. Owoyale, J. A. & Dare, E. O. (1997): Vanillin Derivatives Spray reagents in identification of organic Compounds on Thin-Layers Chromatography. *Nigerian Journal of Chemical Research* 2, 23-26. Published by Ahmadu Belo University, Zaria, Nigeria.

Edited Conference Proceeding:

- 97. Olugbojo, J.A., Akinyemi, A.A., Obasa, S.O., and Dare E.O. (2022): Synthesis, and characterization of maggot-based chitosan-silver nanocomposite for antimicrobial application in fisheries and aquaculture. *Nano Plus, Sci. Technol. Nanomat 5, 1-09. NANO2022/B043.* http://doi.org/10.48187/stnanomat.2022.5.001
- 98. Olugbojo, J.A., Akinyemi, A.A., Obasa, S.O., and Dare E.O. (2022): Biosynthesis, characterization and antibacterial activities of Cerium oxide and Zinc oxide nanoparticles on fish pathogens-Vibrio cholera RC3 and Escherichia coli C214: A comparative study. *Nano Plus, Sci. Technol. Nanomat 5, 1-09. NANO2022/B043* http://doi.org/10.48187/stnanomat.2022.5.001
- 99. Aremu J.A., Durosinmi L.M., Oladoyinbo F., Akinlabi A.K. and Dare E.O. (2020): Effect of storage and insect infestation on physic-chemical and nutritive values of sun-dried yam. Journal of Chemical Society of Nigeria, 45, 1015-1019. <u>http://journals.chemsociety.org.ng/index.php/jcsn</u>
- Aremu J.A., Durosinmi L.M., Oladoyinbo F., Akinlabi A.K. and Dare E.O. (2020):Varietal Differences in Nigeria Maize grain. Journal of Chemical Society of Nigeria, 45, 1037-1041.
 http://journals.chemsociety.org.ng/index.php/jcsn

- Anuoluwa Abimbola Akinsiku, Kolawole Oluseyi Ajanaku and Enock Olugbenga
 Dare (2019): Green Synthesis of Pseudo-Cubic Ag/Ni Bimetallic Nanoparticles using
 Senna occidentalis Leaf Extrac. IOP Conf. Series: Journal of Physics: Conf. Series. Pp 1-10
 doi:10.1088/1742-6596/1299/1/012133. IOP Publishing
- 102. Anuoluwa Abimbola Akinsiku, Olayinka Oyewale Ajani, Joan Ayo-Ajayi, Olabisi Theresa Ademosun, Samuel Oluwakayode Ajayi, Enock Olugbenga Dare (2019): *Momordica charantia* stem extract mediated biogenic synthesis of silver nanoparticles: optical and antimicrobial efficacy. *13th Joint Conference on Chemistry (13th JCC); IOP Publishing IOP Conf. Series: Materials Science and Engineering 509 (2019)* 012018. IOP Publishing doi:10.1088/1757-899X/509/1/012018
- 103. Anuoluwa Abimbola Akinsiku, Olayinka Oyewale Ajani, Joan Ayo-Ajayi, Olabisi Theresa Ademosun, Samuel Oluwakayode Ajayi, Enock Olugbenga Dare (2019): Room temperature phytosynthesis of silver nanoparticles using leaf extract of *Momordica charantia*: optical and antimicrobial properties. *13th Joint Conference on Chemistry (13th JCC). IOP Conf. Series: Materials Science and Engineering 509 (2019)* 012019 IOP Publishing. doi:10.1088/1757-899X/509/1/012019
- 104. Adebowale T. O and Dare E. O (2018): Development of Nanoemulsion as a Potential Medium for the Transdermal Delivery of Insulin and Chlorpromazine Drug. Proceedings of the 2018 International Women in Science Without Borders (WISWB) – *Indaba* ISBN: 978-0-620-78656-0. First Edition: June 2018. Pg 3.
- 105. Anuoluwa Abimbola Akinsiku, Enock Olugbenga Dare **, Olayinka Oyewale Ajani, Joan Ayo-Ajayi, Olabisi Theresa Ademosun, Samuel Oluwakayode Ajayi (2018): Room temperature Phytosynthesis of Ag/Co bimetallic nanoparticles using aqueous leaf extract of *Canna indica*. 2nd International Conference on Science and Sustainable Development, IOP Publishing: IOP Conf. Series: *Earth and Environmental Science* 173 (2018) 012019 doi :10.1088/1755-1315/173/1/012019
- #Oladoyinbo F.O., Muiz A.A., Adesokan, H.A., Ayinde W., Akinlabi, A.K., Shoroye, M.O., Saxone V.O., Sonde, I.O. and Dare, E.O. (2017) Facile Biosynthesis and characterization of Ag Co core shell nanohybrid using the leaf extract of spinacia oleracea: A step toward Agricultural Humidity sensor.
 Proceedings Chemical Society of Nigeria (CSN) 2nd Zonal International Conference, Exhibition and Workshop, South West 2017. pp 29-31. Akinlabi A.K., Adeogun A.I. and Babajide S.O.,(Eds.) CSNSW-IND006. Held at Moshood Abiola Polytechnic, Abeokuta, Ogun state Nigeria. May 18-20, 2017. Published by CSN,South West Zone.
- 107. Oladoyinbo F.O., Adeyemo R .O., Rasheed A.A., Adesokan H. A., Atayese A. O., Ayinde W.B., Akinlabi A.K., Shoroye .O. and Dare E.O Microwave assisted green synthesized silver nanoparticle using

Nauclea Latifolia aqueous leaf extract: Visual colorimetry sensor of aqueous pb²⁺ and Fe³⁺ and its antimicrobial study. **Proceedings Chemical Society of Nigeria (CSN) 2nd Zonal International Conference, Exhibition and Workshop, South West 2017**. pp 25-28 Akinlabi A.K., Adeogun A.I. and Babajide S.O.,(Eds.) CSNSW-IND006. Held at Moshood Abiola Polytechnic, Abeokuta, Ogun state Nigeria. May 18-20, 2017. Published by CSN,South West Zone.

- 108. Bamisaye O.A., Eromosele C.O.,Oladoyinbo F.O.,Akinloye O.A. and Dare E.O. Development of oil in water (O/W) nanoemulsion formulation for spontaneous transdermal delivery of ciprofloxacin. . Proceedings Chemical Society of Nigeria (CSN) 2nd Zonal International Conference, Exhibition and Workshop, South West 2017. pp 32-35. Akinlabi A.K., Adeogun A.I. and Babajide S.O.,(eds.) CSNSW-IND006. Held at Moshood Abiola Polytechnic, Abeokuta, ogun state Nigeria. May 18-20, 2017. Published by CSN,South west zone.
- Saxone V.A., Muiz A. A., Sonde O.I., Oladoyinbo F.O., Afolabi T.A., Adetunji O., Adsokan H.A., and Dare E.O. Green synthesis, characterization and optical properties of silver-cobalt nanohybrid. .
 Proceedings Chemical Society of Nigeria (CSN) 2nd Zonal International Conference, Exhibition and Workshop, South West 2017. pp 38-40. Akinlabi A.K., Adeogun A.I. and Babajide S.O.,(Eds.) CSNSW-IND006. Held at Moshood Abiola Polytechnic, Abeokuta, Ogun state Nigeria. May 18-20, 2017. Published by CSN,South West Zone.
- Sonde O.I., Oloyede A.R. Sanyaolu N.O. Afolabi T.A. and Dare E.O. Photo-catalytic and antibacterial assessment of selenium-doped Zinc oxide nanocomposite. Proceedings Chemical Society of Nigeria (CSN) 2nd Zonal International Conference, Exhibition and Workshop, South West 2017. pp 43-49 Akinlabi A.K., Adeogun A.I. and Babajide S.O.,(eds.) CSNSW-IND006. Held at Moshood Abiola Polytechnic, Abeokuta, ogun state Nigeria. May 18-20, 2017. Published by CSN,South west zone.
- ** Bamisaiye Y.; Eromosele C. O.; Idowu M.A. and Dare E. O. (2016) Transdermal Nanoemulsion Chitosan-cellulose –POSS Hybrid Patch as an Effective Controlled Insulin Delivery System *Proceedings of* 2nd African Conference (An International Conference on all aspects of Nanotechnology) pp 75 – 81. University of Nigeria, Nsukka, July 4 – 7, 2016
- Adetunji R. Olayide, Oluwadare J. Onwuka O. Ude , Enock O. Dare, Kamol O. Alamu (2016):
 Corrosion Behaviour of Brass coated mild and stainless steel in 1 M NaOH using polarization method 159-164, COLENG Proceedings, March 7-11, 2016.
- **113.** Akinyemi, O.J.; Adetunji, O.R.; Kuye, S.I. and Dare, E.O. (2016) Corrosion performance of electroplated steel in tomatoe, Orange and Pineapple juices, 171-176, Proceedings of the 2016 International conference on SET.
- 114. Adesokan H.A., Ajibefun O.O., Fadodun V.B., Oladoyinbo F.O., Ayinde W.B., Alayande S.O., Yekinni A.O., and Dare E.O. Synthesis and characterization of Silver (Ag) nanoparticles from *kigelia Africana* and *ficus exasperate* for nanosoap application. 1st international chemistry conference (ICC), Chemistry department, faculty of science, University of Lagos for chemical sciences – solution to global challenges, in collaboration with Royal society of chemistry (RSC, UK), Familoni and K. O. Abdulwahab

(Eds.) 16-ICC-21. Held at University of Lagos, Lagos State, Nigeria. May 15-18, 2016. Published by UNILAG

- **Akinsiku, A.A, Ajanaku, K.O., Adekoya, J.A, Dare E.O. (2015) Green Synthesis and Characterization of Silver Nanoparticles Using *Canna indica* and *Senna occidental is* Leaf Extracts.
 Proceedings of 2nd Covenant University International Conference on African Development Issues (CU-ICADI) 2015 pp154 – 157, Monday 11 – Wednesday 13th May, 2015 : Materials Technology Track (published by Covenant University, Ota)
- **Alayande, S. O. Dare, E. O. Fasasi, A. Y. Ajao, J. A. Pelemo, D. A. and Osinkolu, G. A. (2012):
 'SEM Studies of Porous Electrospun Fibres from Discarded Polystyrene' *Proceedings of the 11th Annual Nigerian Materials Congress* (NIMACON 2012), pp 169-172, November 20-24, 2012. ISBN 978-060-609-22
- 117. Oyatogun, G. M. Esan, T. Oziegbe, E. Adebiyi, K. E. Togun, R. O. Dare, E. O. &Adeoye, M. O. (2011): The Development, Characterization and In vivo Testing of Cowry

based Nanocomposite for Dental Application. Book of Proceeding of 4th Annual Conference of the Faculty of Technology, Obafemi Awolowo University, Ile – Ife. **pp** – **147**.

- **Alayande, S. O., Sonde, O. O. Dare, E. O. Osinkolu, G. A. Bamgbose, J. T. and Ayinde, w. B. (2010): Nanostructuring of Agro waste silica extract as macroporous membrane. Book of Proceedings of 33rd Annual Conference of Chemical Society of Nigeria at Dusmar Hotel, Kuto, Abeokuta, Ogun State (September 20th 24th, 2010) (Editor-in-Chief: C.O. Eromosele) pp 245-250
- 119. Lasisi A.A., Folarin, O.M., Dare, E.O., Akinloye, O.A. (2010): Phytochemical, Antibacterial and Cytotoxic Evaluation of Raphiostylis Benienensis [Hook F. ex Planch] stem bark extracts. Book of Proceedings of 33rd Annual Conference of Chemical Society of Nigeria at Dusmar Hotel, Kuto, Abeokuta, Ogun State (September 20th 24th, 2010)(Editor-in-Chief: C.O. Eromosele) Published by Chemical Society of Nigeria. pp 89 93.
- Makinde O.W., Ogundele K.T., Gbenu S., Dare E.O., Osinkolu G.O., Fasasi A.Y. and Kalu P.N.
 (2009) Synthesis, characterization and application of silver allied bimettalic nanoparticles. Proceedings of the 5th International Conference of AMRS and NIMACON 2009, Abuja Nigeria. Pp 278
- S. Adewuyi, Dare, E. O. Sanyaolu, N. (2009): Nanoparticles formed by complexation of poly [B-(1→ 4)-2-amino-2-deoxy-D-glucopyranose] with lead ions. Proceedings of the 5th International Conference of AMRS and NIMACON 2009, Abuja Nigeria. Published by African Material Research Society Pp 275

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION:

- 122. Olugbojo, J., Adeolu Akanji, A., Samuel Olubodun, O., & Enock Olugbenga, D. (2024). Pathogenic bacteria diversities in Clarias gariepinus and their seasonal variation among commercial fish farms in Ota, Ogun State, Nigeria. *Covenant Journal of Physical and Life Sciences*, *12*, 4269.
- 123. Joseph Olugbojo, Adeolu Akinyemi, Samuel Olubodun and Dare Enock (2024) Comparative studies on antibacterial activities of chitosan, silver nanoparticles and maggot based chitosan-silver nanocomposites against fish pathogens. Jordan Journal of Biological Sciences (Accepted August 2024).

DOCUMENTED EXHIBITION

124. Dare E.O. (2012): "Developed nanoporous water filter technology for point-of-use in Nigerian homes. Exhibited at National University Research and Development Fair (NURESDEF 2012) and won an award for the 2nd position (exhibition and award document attached). (Documented by National University Commission, NUC, Abuja)

PATENTS

125.**Alayande, S.; Akinlabi, A.K., Ayedun, P., Msagati, T. Dare, E.O...: (2018, 2021) Recovery of crude oil from a crude oil adsorbent and simultaneous regeneraton of the adsorbent.:

[i] USA Patent Cooperation Treaty. (US Patent:11,065,602B2). JULY 20, 2021

[ii] World Intellectual Property Organization [WIPO PATENT TREATY]: International application published under the Patent Cooperation Treaty (PCT): World Intellectual Property Organization International Bureau. International Publication Date: 29 March 2018 (29.03.2018).
 International Publication Number: WO 2018/055566 Al

[iii] CANADAN PATENT TREATY: 3037827

[iv] EUROPEAN PATENT TREATY

Publication EP 3515575 A4 20190731 (EN) Application EP 17852519 A 20170922

126. **Alayande, S.; Msagati, T.; Dare, E.O. (2018): Remediation of crude oil spillage from water using superhydrophobic electrospun fibre.

[A] Nigeria NOTAP Patent. (Application No: NOTAP/IPR/358/24, Patent No. NG/2018/278.

- 127. Dare E. O. and Akinsipo B (A 2020, B 2023 C 2024): A nanoemulsified system of Phytodrug for a novel transdermal treatment of type II Diabetes Mellitus:
- [i] Akinsipo and Dare (2024): United State Patent US 2024/0408010 A1 (Publication date: Dec 12, 2024)

[ii] World Intellectual Property Organization [WIPO PATENT TREATY]:
International application published under the PATENT COOPERATION TREATY (PCT): World
Intellectual Property Organization International Bureau. International Publication Date: 06 April 2023
(06.04.2023). International Publication Number: WO 2023/053077 Al
[iii] Dare et al 2020: NOTAP Patent: RP-NG/P/2020/155

BOOKS:

- Adekoya J.A.; Ogunniran K. O.; Siyanbola T.O.; Dare E. O. and Revaprasadu N. (2018):
 Band Structure, Morphology, Functionality, and Size-dependent Properties of Metal Nanoparticles
 IN (Noble and Precious Metals Properties, Nanoscale Effects and Applications). INTECHOPEN.
 ACADEMIC EDITOR: Prof. Mohindar Seehra West Virginia University, USA
 http://dx.doi.org/10.5772/intechopen.72761.
- 129. Samson Oluwagbemiga Alayande, Anuoluwa Abimbola Akinsiku, Oyesolape Basirat Akinsipo (Oyelaja), Esther Oluwasayo Ogunjinmi, and Enock Olugbenga Dare (2021): Green synthesized silver nanoparticles and their therapeutic applications. *Comprehensive Analytical Chemistry*. 2021 Elsevier B.V. <u>https://doi.org/10.1016/bs.coac.2021.01.009</u>. P 1-27

09. MAJOR CONFERENCES ATTENDED WITH PAPERS READ

- 10. Nano-conference Keynote Speaker: LAUTECH/NASDR 2022: The Narrative of transformation to circular economy via sustainable nanotechnology. Nov. 22-25, 2023
- 11. Bowen Humboldt Kolleg 2023: Plenary speaker: Circularity paradign: Roles of sustainable nanotechnology.
- 12. <u>78th Inaugural lecturer of my University (FUNAAB) entitled "Nanotechnology as size-powered</u> <u>harbinger of the 21st century technological revolution". June 21, 2023.</u>
- 13. Dare, E.O. (Keynote speaker) 2021: New frontier in fluorescently labeled nanomaterials in security and forensic: Perspectives from fingerprinting to anti-counterfeiting . 4th African Conference/Workshop on Applications of nanotechnology University of Nigeria Nsukka, July 18 – 23, 2021
- 14. Dare E.O. (Conference Keynote speaker) 2021: Progress, challenges, and future of nanomedicine in medical and biomedical research. HYBRID MSN Conference, Abuja. RMRDC, December 23-26.
- 15. Pan Africa Chemistry Network Congress (PACN) 2019: TOPIC: SUSTAINABLE SUPEROLEOPHILIC/SUPERHYDROPHOBIC SORBENT FOR WATER PURIFICATION IN OIL – CONTAMINATED NIGER DELTA REGION. Nov. 4th – 8th, 2019. Addis ababa, Ethiopia.

- 16. Dare E. O. (Conference keynote speaker) 2017: Nanotechnology as a sized powered harbinger for a sustainable "soft future" material: Nigeria status, options and challenges. lautech 1st Nano conference. DATE, 21ST 24TH AUGUST, 2017
- 17. PACN Congress on Biodiversity and Global Challenges: A Chemical Sciences Approach. 30th Nov 2nd Dec. 2014, United Nation Conference Center, Addis Ababa, Ethiopia. Organized and sponsored by Royal Society of Chemistry, UK. "Sustainable POU Nanoporous Water filter for water treatment"
- 18. E.O. Dare (13TH Annual Nigerian Materials Congress (NIMACON 2014) 23RD 27TH November, 2014. Development of a Biocompatible – Encapsulated Magnetite Nanocapsule for invitro Biomedical Drug Delivery"
- 19. E. O. Dare (invited 13th University leadership Seminar) "Nanotechnology: A Sized Powered Harbinger of Advanced Materials for a Sustainable "Soft Age" presented on 26th March 2014 at COLNAS Auditorium
- 20. GOING GLOBAL 2013: British Council organized program for internationalization of universities with the theme "Knowledge base economy for the 21st century" held at Dubai World Trade Centre, Dubai. March 3 – 7, 2013
- 21. Invited. 2011 World Material Summit held at L'ENFANT PLAZA HOTEL, Wahington DC, USA. Oct 8 13, 2011 Presented: Development of Nanofilter membrane technology for point of use water purification in Nigerian homes
- 22. E.O. Dare (Plenary lecturer) Nanobio and Bionano Technology: A revolution of functional Materials for a Sustainable "Soft Age" (NIMACON 2012) held at Centre for energy research and Development, Obafemi Awolowo University, Ile Ife. November 20 24, 2012.
- 23. E. O. Dare (invited paper) "Sol-gel process: an ideal nanostructuring phenomenon" (Alehander Von Humboltd Scholars conference held at Ladoke Akintola University of Technology, Ogbomoso, July 4 7th, 2011
- 24. **E.O. Dare** (Invited Plenary lecturer) **"Sensor: eye and ear of machines**" delivered at 9th Nigeria Material Congress (NIMACON 2010) held at Universal Hotel Enugun 23rd 26th November, 2010.
- 25. E.O. Dare (invited Unit leader lecture) ' **Development of Nanoceramic membrane from agricultural wastes composite'** being a unit leader invited lecture delivered at International Convention Centre, Hilton Hotel, Durban, South Africa (October 2009)
- 26. E. O. Dare (main speaker) " **Recent developments in the assembly of nanomaterials using sol-gel process**" lecture delivered at Obafemi Awolowo University, Ife on the 17th June 2008.
- 27. E. O. Dare (main speaker) " Nanoporous silica, nanocrystalline silicon carbide and silicon nitride: Synthesis from Ofada rice husk and possible application in membrane technology, high temperature electronic and nuclear devices" presented as <u>invited guest lecture</u> at Center for energy and development, Obafemi Awolowo University, Ile Ife. Sept 2007

- 28. E. O. Dare (main speaker) "High surface area nanomaterial: possibilities of developing nanoporous membrane from our local biomaterials" presented as <u>enlightenment lecture</u> at Sheraton Hotel, Lagos, October 20, 2006.
- 29. E. O. Dare (main speaker) "Nanoscience and nanotechnology: State-of-the-art process for advanced material" Presented as <u>invited guest lecture</u> during an annual meeting of material society of Nigeria – Abuja chapter at RMRDC auditorium, October 5, 2006. The same topic was also an invited guest lecture presented at Covenant University, Ota, Ogun state, 2009.

E. O. Dare (main speaker) "Nanocomposite hybrid material based on sherosilicate and spherosiloxanes: precursors to diverse industrial materials" Presented as <u>invited guest lecture</u> at the first Nigerian Nanotechnology Initiative held at Transcorp Hilton Hotel, Abuja, June 8, 2006.

11. REFEREES

- Prof. Rick Register, Department of Chemical Engineering, Princeton University, Princeton. NJ. USA E-mail: <u>register@princeton.edu</u>, Phone: +1- 609-258-4691
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- 3. Prof. David Diaz Diaz, University of La Laguna (Spain), Tel. (+34) 922318584. ddiazdiaz@ull.edu.es
- 4. Chief (Dr) Chris. O. Ogunbanjo, Church of the Epiphany, Erunwon Ijebu.
- 5. Dr. Engr. D. A. Oke. Ibadan Polytechnic, Ibadan



Prof. E.O. Dare Name -----

Signature -----

MY RESEARCH FOCUS AND CONTRIBUTION TO KNOWLEDGE

Since 2005, my research efforts have been directed towards functional nanomaterials based on: [1] Organic-Inorganic nonohybrids [2] Photochemistry [3] Sustainable chemistry [4] Metal, Metal-oxide nanoparticles [5] Water chemistry/Surface chemistry [6] Ceramic [7] Drug delivery [8] Polymerization and [9] Theoretical chemistry. [10] Environmental/crude oil spillage remediation. [11] Triboeletric Nanogenerator (TENG) powering food spoilage sensor. The major precursor for [1] and [2] has been highly nanoscopic Polyhedral Oligomeric Silsesquioxane (POSS) whose structural anatomy is as shown

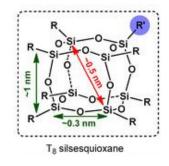


Figure 1: POSS anatomy

My holistic research dynamics leading to various functional materials for device application is as shown in figure 2. I have published in all the highlighted research tentacles.

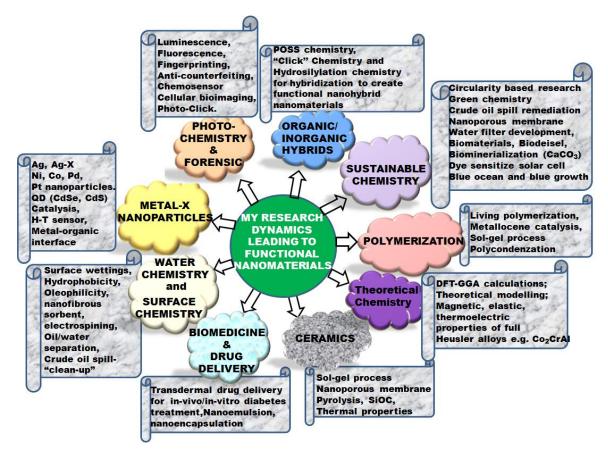
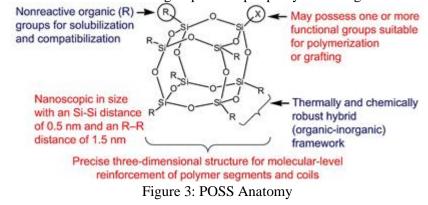


Figure 2: My holistic research activities

My major scientific contribution to knowledge and breakthrough lies on:

(A) Development of novel process for POSS nanocomposite synthesis and application as Hydraulic fluids and Glasses

POSS is a hybrid nanocomposite material possessing nanoscopic size with Si - Si distance of 0.5 nm and an R - R distance of 1.5 nm characterized with various reactive groups at the periphery of the cage.



Extensive research on POSS as semiconductors, light emitting diodes and other electronic have been done by many Companies and Universities, including Dow Corning, IBM computer, e.t.c. These materials have been extensively used in semiconductors owing to its tunable periphery functionalities. With electronic getting smaller and smaller, the need for materials that keep these devices from short-circuiting is growing in demands. POSS properties have the ability to prevent short-circuiting by acting as rigid and providing durability for devices --- However, in-spite of the aforementioned importance of these great materials, its synthetic process and conversion rate leaves much to be desired in which Octavinyl-POSS and H-POSS were obtainable in yield of 7% and 21% respectively before 2006. **Breakthrough**: In the years 2006, Prof. Liu, James Peng and I innovatively moved the yields of Octavinyl-POSS and H-POSS to 41% and 72 % respectively by adopting a novel modified synthetic procedure as detailed in a Royal Society of Chemistry, UK Journal (Dalton Transaction). Since then, several efforts have been put to create functional materials (e.g. hydraulic lubricant for off-road machines, silicon oxycarbide special glass) from POSS nanocomposites).

(B) Nanoporous water filter membrane for water purification and its impact on health status of a local community As you know, a new paradigm for approaching environmental and quality of life is unfolding ----- Nanotechnology. Provision of affordable and clean water services to the "unconnected" in rural areas is a prerequisite to poverty alleviation which determines quality of life. I was privileged to be a major contributor to the national and international clarion call for the development of nanoporous water filter from agricultural wastes (saw dust, rice husk ash) and clay. My previous invited research visit to Princeton University, NJ, USA prompted a return visitation of our collaborators to my laboratory in Nigeria. Within one months of their stay in Abeokuta, a program tagged "Grand Challenges Programme on Ceramic Filter for Portable Water" (http://sig.ias.edu/files/pdfs/USAMI-RISE-Presentation.pdf) was organized. A preliminary research in this direction and application of the filter device on a local community in Abeokuta, Ogun state, offered us a value – added – product, which, however, our indigenous research group and I were positively disposed to improve upon. Several improvements have been made leading us to some developmental stages and eventual award [Figure 4].



DEMONSTRATING THE WATER FILTER TECHNOLOGY BEFORE GOV. WIKE AND STAKEHOLDERS



Figure 4: Nanoporous Water filter developed and demonstrated under NUC representative and the press as government executive (Governor Wike of River state) watches.

It is noteworthy that effort put towards stage C credited my group with an award as the second best in a National University Commission (NUC) - organized research innovation competition (see attachment). The workability of the water filter technology have been demonstrated before government executives, stakeholders, NTA/AIT and press (Figure 4)

- (C) Nanobimetallic and Green nanotechnology : Using various nanostructuring methods, I have been able to synthesized and evaluate properties of silver nanoparticles. Many of these nanosilvers found inhibition against offensive bacterials, virus and fungi.. However, providing synergy to nanosilver via "green nanotechnology" using various medicinal plant extracts vis-à-vis mopholine, potentially, would be a "hopeful future" toward Ebola containment. This, we have started working on with records of success stories. I have also synthesized various hybrids-silver nanoparticles using wet chemistry and they have found applications in catalysis and sensors.
- (D) Electrospun nanofibrous materials possessing superhydrophobic/superoleophilic wetting surfaces for crude oil or emulsified wastewater separation

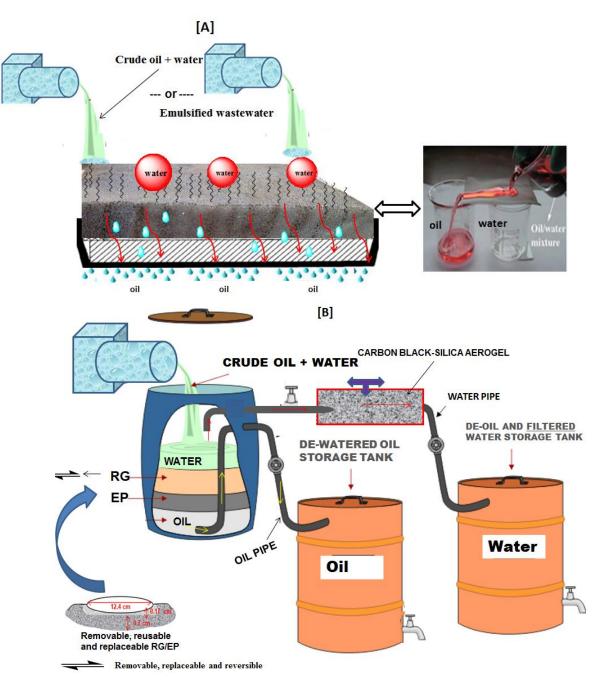


Figure 5: Crude oil separation prototype developed (A) and proposed operational instrumentation (B)[Patent: paper no. 101: WO 2018/055566 A1 US Patent:11,065,602B2]

We have objectively achieved this in this project leading us to electrospun nanoporous sorbent **boom** that is cheap, reusable and sustainably suitable for wider crude oil dewatering/deoiling (**figure 3, US Patent**). Furthermore, we have been able to innovatively create several novel functional POSS, which have proven record of excellent surface properties. The combination of the inorganic group in the hybrid system and the microcrystalinity of the material make it one of the lowest surface energy materials known, imparting hydrophobic and oleophobic properties. Indeed, my research group has also developed modified procedure leading to a number of derivatized POSS possessing hydrophobic/oleophobic properties for crude oil purification. Lately, a switchable dual functional nanofibrous sorbent that reversibly switch as it dewatered – deoil crude oil was proposed [Figure 5].

(E) **Petroleum fingerprinting**: In order to circumvent incidental danger arising from adulterated petroleum products which has led to severe explosion and environmental disorder, we did use the concept above (electrospun nanoporous sorbent) to develop sustainably reuseable materials capable of correlating and differentiate adulterated petroleum via it geochemical fingerprint (**Papers no. 11, 16**). Dr. Samson Alayande and Prof. Msagati are major contributor.

F: FORENSIC SCIENCE: <u>Human Fingerprinting, Anti-counterfeiting and Geochemical fingerprinting</u>: Public, social and environmental security remain a global phenomenon. The advancement of forensic science has drastically improved public and environmental security. To contribute in this direction, we have adopted fluorescently labeled materials for the detection of fingerprints and anti-counterfeiting bar codes in criminality detection. Our Fluorescent labeled nanohybrid could effectively detect and image fingerprint of human with excellent legibility and photostability (Figure 6) that can stand the test of time.</u>

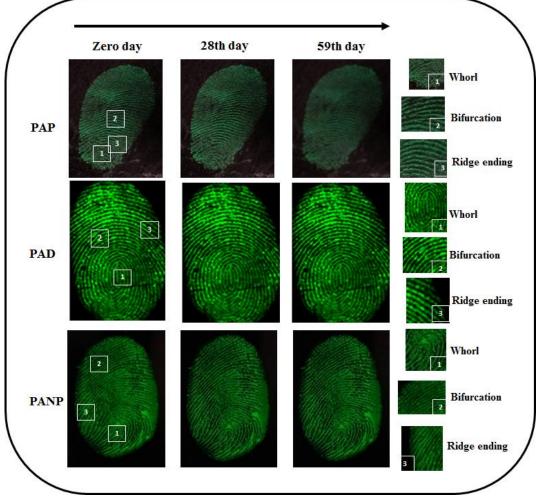


Figure 6 : Fluorescent labeled POSS for fingerprint and imaging in criminality detection

Environmental security requiring detection of adulterated petroleum products has been mentioned in (E) above as part of my contribution to knowledge

G: Transdermal Drug Delivery: I have also looked into Transdermal Nanoemulsion (Figure 7) as an effective controlled insulin delivery system using nanoemulsion as carrier. Nanoemulsion as an efficient vehicle for transdermal drugs delivery system for in-vivo treatment of diabetes type II has been carried out successfully.

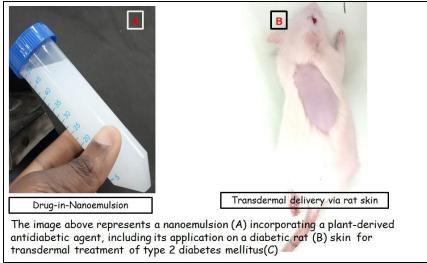


Figure 7: Transdermal drug delivery approach (US 2024/0408010 A1; NOTAP Patent: RP-NG/P/2020/155)

H: Theoretical Chemistry: I am not limited to experimental chemistry (A − G) above. First-principles study of zinc-blende BxAlyIn1-x-yN quaternary alloy was achieved using Alchemical mixing approximation approach. The results indicate that Zinc- blende alloys are suitable candidates for deep ultra- violet light emitting diodes (LEDs), laser diodes (LDs) and modern solar cell since the concentrations x and y make the bandgap and lattice constant of the quaternary alloys tunable to desirable values. Prof. G.A. Adebayo is one of the major contributor.

<u>CONCLUSIONS</u>: SUMMARY OF OUR SELECTED OUTSTANDING INNOVATIVE AND INVENTIVE CONTRIBUTION TO KNOWLEDGE WITH <u>PATENTS</u> IS AS SCHEMATICALLY OUTLINED (FIGURE 8)

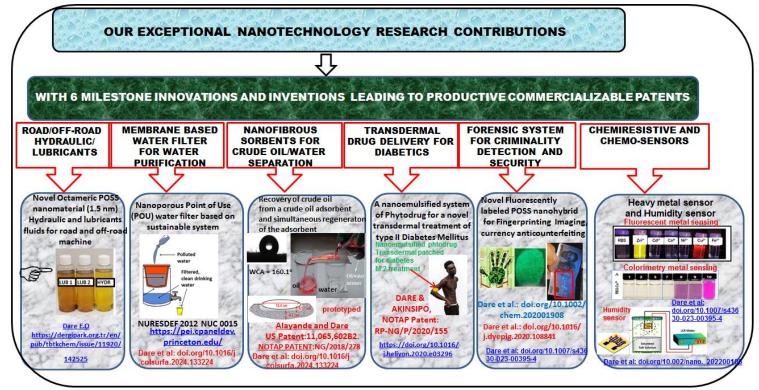
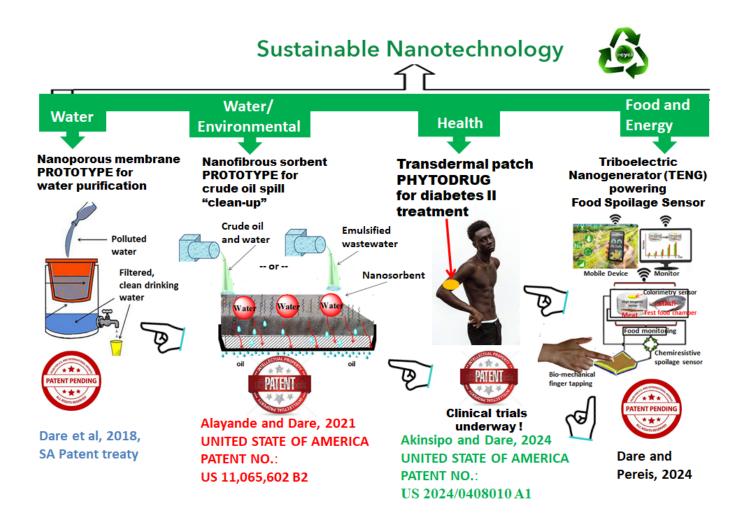


Figure 8: Selected milestone achievement with Patents

SUSTAINABLE CHEMISTRY, CIRCULARITY AND SUSTAINABLE NANOTECHNOLOGY



PATENTS REGISTRATION DOCUMENTS

PATENT 1: SUSTAINABLE CRUDE OIL SEPARATION, PURIFICATION AND SPILLAGE MANAGEMENT

TITLE OF INVENTION: RECOVERY OF CRUDE OIL FROM A CRUDE OIL ADSORBENT AND SIMULTANEOUS REGENERATION OF THE ADSORBENT PATENT TYPE: UNITED STATES PATENT TREATY DATE OF PAPENT: JULY 20, 2021 PATENT NO: US 11,065,602 B2 PRINCIPAL INVENTOR: PROF. DARE, ENOCK OLUGBENGA AND DR. SAMSON ALAYANDE



US011065602B2

(12) United States Patent Alayande et al.

(54) RECOVERY OF CRUDE OIL FROM A CRUDE OIL ADSORBENT AND SIMULTANEOUS REGENERATION OF THE ADSORBENT

- (71) Applicant: University of South Africa, Pretoria (ZA)
- Inventors: Samson Oluwagbemiga Alayande, Ibadan (NG); Enock Olugbenga Dare, Abeokuta (NG); Akinola Kehinde Akinlabi, Abeokuta (NG); Peter Olaitan Aiyedun, Ibadan (NG); Titus A. M. Msagati, Roodepoort (ZA)

(10) Patent No.: US 11,065,602 B2 (45) Date of Patent: Jul. 20, 2021

- (58) Field of Classification Search None
 See application file for complete search history.
- (56) References Cited

U.S. PATENT DOCUMENTS

3,756,948	Α		9/1973	Weinberg	
5,244,580	А	*	9/1993	Li	B01D 17/04

PATENT 2: NANOEMULSION TRANSDERMAL DRUG DELIVERY FOR DIABETICS

TITLE OF INVENTION: A NANOEMULSIFIED SYSTEM OF PHYTODRUG FOR A NOVEL TRANSDERMAL TREATMENT OF TYPE II DIABETES MELLITUS

[A]

PATENT TYPE: United State Patent **DATE OF PAPENT**: December 12, 2024 PATENT NO: US 2024/0408010 A1 PRINCIPAL INVENTOR: PROF. DARE, ENOCK OLUGBENGA AND DR.MRS BASIRAT



(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0408010 A1 Dec. 12, 2024 Akinsipo et al. (43) Pub. Date:

(54) A NANO EMULSIFIED PHYTO-DRUG FOR TRANSDERMAL TREATMENT OF DIABETES

Publication Classification

(2006.01)

(51) Int. Cl. A61K 9/107

[B] PATENT TYPE: NIGERIA NOTAP DATE OF PAPENT: SEPTEMBER 7, 2020 **PATENT NO: NG/P/2020/155** PRINCIPAL INVENTOR: PROF. DARE, ENOCK OLUGBENGA AND DR.MRS BASIRAT **AKINSIPO**



Form Designs No. 24

CERT. No. 004844

FEDERAL REPUBLIC OF NIGERIA Certificate Of Registration Of Patent (Patents and Designs Act; CAP 344 Laws of the Federation Of Nigeria 1990)

> RP: NG/P/2020/155 Date of Patent: 07/09/2020 Date of Sealing: 05/10/2020

President of the Federal Republic of Nigeria and Commander-in-chief of the Armed Forces MUHAMMADU BUHARI, GCFR.

Whereas a request for the grant of a patent has been made by: ENOCK OLUGBENGA DARE; OYESOLAPE BASIRAT OYELAJA-AKINSIPO; FATAI OLADOYINBO; LATEEF SANNI AND SAMSON OLUWAGBENGA ALAYANDE OF FEDERAL UNIVERSITY OF AGRICULTURE, OGUN STATE, OGUN STATE, NIGERIA; TAI SOLARIN UNIVERSITY OF EDUCATION, OGUN STATE, OGUN STATE NIGERIA; FEDERAL UNIVERSITY OF AGRICULTURE, OGUN STATE, OGUN STATE, NIGERIA; FEDERAL UNIVERSITY OF AGRICULTURE, OGUN STATE, OGUN STATE, NIGERIA; AND FIRST TECHNICAL UNIVERSITY, OYO STATE, OYO STATE NIGERIA *C/O* INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER OFFICE, FIRST TECHNICAL UNIVERSITY, IBADAN

KLM 15, IBADAN -LAGOS EXPRESS ROAD, IBADAN, OYO STATE, OYO State

For the sole use and advantage of an invention for: A NANOEMULSIFIED SYSTEM OF PHYTODRUG FOR A NOVEL TRANSDERMAL TREATMENT OF TYPE 11 DIABETES MELLITUS AND WHEREAS the Federal Government being willing to encourage all invention which may be for public good, is pleased to accede to the request:

KNOW YE THEREFORE, that I do by this Instrument give and grant unto the person(s) above named and any successor(s), executor(s), administrator(s) and assign(s) (each and any of whom are hereinafter referred to as the patentee) by special licence, full power, sole privilege and authority, that the patentee or any agent or licensee of the patentee may subject to the conditions and provisions prescribed by any statute or order for the time being in force at all times hereafter during the term of years herein mentioned, make, use, exercise and vend the said invention throughout the Federal Republic of Nigeria, and that the patentee shall have and enjoy the whole profit and advantage from time to time accruing by reason of the said invention during the term of twenty years from the date first above written on this Instrument: AND to the end that the patentee may have and enjoy the sole use and exercise of the full benefit of the said invention, I do by this Instrument strictly command all citizens of the Federal Republic of Nigeria that they do not at any time during the continuance of the said term either directly or indirectly make use of or put in practice the said invention, nor in anywise imitate the same, without the written consent, licence or agreement of the patentee, on pain of incurring such penalties as may be justly inflicted on such offenders, and of being answerable to the patentee according to law for damages thereby occasioned:

PROVIDED ALWAYS that this patent shall be revocable on any of the grounds from time to time by law prescribed as grounds for revoking patents granted by me, and the same may be revoked and made void accordingly:

OVIDED ALSO that nothing herein contained shall prevent the granting of licences in such manner and for considerations as they may by law be granted

MADE this: 5TH Day of OCTOBER, 2020

STELLA OZO EZENDUKA Registrar

PATENT 3: CRUDE OIL SEPARATION, PURIFICATION AND SPILLAGE MANAGEMENT

TITLE OF INVENTION: REMEDIATION OF CRUDE OIL SPILLAGE FROM WATER USING SUPERHYDROPHOBIC ELECTROSPUN FIBRE. PATENT TYPE: NIGERIA NOTAP DATE OF PAPENT: AUGUST 31, 2018

PATENT NO: NG/2018/278

PRINCIPAL INVENTOR: PROF. DARE, ENOCK OLUGBENGA AND DR. SAMSON ALAYANDE

CERTIFIED DOCUMENTS

FEDERAL UNIVERSITY OF AGRICULTURE **ABEOKUTA, NIGERIA**

OFFICE OF THE REGISTRAR Registrar: Mr. M. O. Ayoola, JP. P.M.B 2240, Abeokuta, Ogun State, Nigeria email: registrar@funaab.edu.ng ayoolamo@funaab.edu.ng Website: www.funaab.edu.ng Tel: 234-803-391-8405

FUNAAB/R/SP.703/I/146

June 5, 2014

Dr. E. O. Dare, Department Chemistry Federal University of Agriculture, Abeokuta.

Dear Dr. Dare,

LETTER OF COMMENDATION

The Governing Council at its 77th Statutory Meeting held on Thursday and Friday, March 6 & 7, 2014 noted your hard-work, high sense of dedication and commitment to duty which has led to your breaking new grounds in Chemistry. Council therefore decided that you should be commended.

On behalf of the Governing Council, I hereby commend you for this feat.

It is hoped that you will continue in that regard so that we can jointly build the University of our dream.

Thank you.

WAVA

M. O. Ayoola, JP Registrar

Our Vision: To be a Centre of Excellence in Knowledge generation for global development and the sustenance of an environmentally friendly society iearning and community outreach towards sustainable developm ment

6 6 6 0 \bigcirc (Ö) 🙆. Ø Ø Pedel RULFSDE (NURESDEF) 8th - 12th October, 2012 RURESD **ALLEN** Second Individual Quard in Science & Technology (Development) Presented to Pare £.O. et al. Ô R Prof. Muhammed S. Audu, FMAN Prof. Julius A. Okojie, OON Executive Secretary, National Universities Commission, Abuja Vice-Chancellor, Federal University of Technology, Minna \bigcirc \bigcirc (O) (A, O) (A, \odot \bigcirc \odot



FEDERAL UNIVERSITY LAFIA P.M.B 146 LAFIA OFFICE OF THE REGISTRAR

Professor Ekanem Ikpi Braide, Bsc (Ife) Msc (Cornell) Phd (Cornell) FAS OFR VICE CHANCELLOR Dr Idris Othman Jibrin, Bsc (ABU) Msc (Abuja) Phd (Abuja) REGISTRAR

15th August, 2012

FUL/REG/APPT/VOL.1/012

Dr. Dare Enock O. Chemistry Department Federal University Lafia

Appointment as Acting Director of Academic Planning Unit

I am pleased to inform you that the Vice-Chancellor has approved your appointment as the Acting Director of Academic Planning Unit.

The appointment is with immediate effect and is for a term of two years in the first instance.

By this letter, the Bursar is required to pay you the appropriate responsibility allowance.

Please accept our Congratulations.

Thank you.

Dr. Abubakar M. Alfmed II

Deputy Registrar (Academic) For: Registrar



FEDERAL UNIVERSITY OF AGRICULTURE ABEOKUTA, NIGERIA

OFFICE OF THE REGISTRAR Registrar: Mr. M. O. Ayoola, JP. P.M.B. 2240, Abeokuta, Ogun State, Nigeria e-mail: registrar@funaab.edu.ng ayoolamo@funaab.edu.ng Website: www.unaab.edu.ng Tel: 234-803-391-8405

FUNAAB/R/ESTAB.50A/2016/45

December 20, 2016

Professor E. O. Dare, Department of Chemistry, College of Physical Sciences, Federal University of Agriculture, Abeokuta.

Dear Professor Dare,

SENIOR STAFF PROMOTION

I have the pleasure to inform you that the Governing Council at its 90th Statutory Meeting held on Thursday and Friday, November 17 and 18, 2016, approved your promotion to the position of **Professor in Materials Chemistry and Nanotechnology** with effect from **October 1, 2015** on a salary of **CONUASS 07** Step **01**: N4,595,148.96 per annum in the Consolidated University Academic Salary Structure (CONUASS 07: N4,595,148.96 - N6,034,962.96).

On behalf of the Governing Council, I congratulate you very heartily on this well-deserved elevation and hope you will continue to serve the University to the best of your ability.

Yours sincerely,

Obafemi Oginni Acting Registrar

Our Vision: To be a Centre of Excellence in Knowledge generation for global development and the Our Mission: To build future leaders and generate knowledge through research and intellectually stimulating environment for teaching,