CURRICULUM VITAE

I. a) Name: John Oludele Olanlokun

b) Department: Biochemistry

c) Faculty: Basic Medical Sciences

II. a) First Academic Appointment: Lecturer II (09 November, 2012)

b) Present Post (With Date): Senior Lecturer (1 October, 2018)

c) Date of Last Promotion: 1 October, 2018

d) Date Last Considered: Not Applicable

III. University Education (With dates)

- University of Ibadan, Ibadan (2003-2014)
- University of Ibadan, Ibadan (2002-2003)
- Ondo State University, Ado-Ekiti **(**1993-1998)

IV. Academic Qualifications (With dates and granting bodies)

- Doctor of Philosophy (Biochemistry, University of Ibadan) 2014
- Masters of Science (Biochemistry, University of Ibadan) 2003 Bachelor of Science (Hons) (Biochemistry, Ondo State University, Ado 1998

V. Professional Qualification (With dates)

- Doctor of Philosophy (PhD) in Biochemistry 2014

VI. Scholarships, Fellowships and Prizes (With dates)

a) Osun State University Merit Award 2010

VII. Honours, Distinctions and Membership of Learned Societies

a) Biochemical Society of Nigeria
b) Nigerian Society of Biochemistry and Molecular Biology
c) World Mitochondrial Society
d) American Society of Parasitologists

VIII. Details of Teaching/Work Experience

Member, Departmental Examinations Committee	2003-2012
Member, B.Sc Programme Committee	2012-2014
Member, MBBS/BDS Programme Committee	2012-2017

Undergraduate Courses Taught

The following courses have been taught to Biochemistry and Medical (MBBS/BDS) students at 200, 300 and 400 levels till date:

a) BIC305: Biological Membranes
b) BIC 306: Enzymology
c) BIC 311: Industrial Work Experience
d) BIC 405: Advanced Enzymology
e) BIC 406: Membrane Biochemistry and Biophysics
f) BIC 413: Biochemistry and Immunology of Parasitic Diseases
g) BIC 419: Seminar
h) BIC 420: Project
i) Organization and supervision of weekly practical classes: Medical and Biochemistry students.

Postgraduate courses taught

a) BIC 701 General Biochemistry
b) BIC 702 Membranology and Cell Biophysics
c) BIC 706 M.Sc Dissertation.. I have successfully supervised fourteen M.Sc Dissertations and currently supervising two Ph.D. students.

IX. Research

a) Completed

- Antiplasmodial effects of heterocyclic compounds from *Alstonia boonei* and the prevention of mitochondrial-mediated apoptosis.
- Inductive effects of antimalarial drugs on mitochondrial permeability transition pore and other apoptotic markers.
- *In silico* study of the inhibitory effects of a novel purified compound from *Alstonia boonei* on lactate dehydrogenase and plasmepsin II.
- Roles of creatine kinase, troponins I and T in cardiac and muscle dysfunction during malarial infection.

b) In Progress

- Inhibitory effects of active principle from mistletoe and *Pepper guineensis* on *Plasmodium falciparum* Export Protien I.

  After the parasitic invasion of the red blood cells by the *Plasmodium falciparum* strain of the malarial parasite, a remarkable process of remodeling occurs in the host-cell mediated by trafficking of several effector proteins to the red blood cell compartment. The exported virulence protein, *P. falciparum* erythrocyte membrane protein 1 (PfEMP1) is responsible for cytoadherence of infected cells to host endothelial receptors. Parasitized red blood cells become rigid and adhere to a variety of cells, causing obstruction of blood flow in the organs. This factor is central to the survival and pathogenicity of *P. falciparum*. Previous experiments in our laboratory have shown that mistletoe and *Pepper guineensis* have antimalarial properties. Their active principles would be isolated via activity-guided assay and would be characterized using chromatographic and spectroscopic analyses. This would be tested on parameters such as soluble adhesion molecules and selectins to assess their mechanism of antimalarial action.

- Inhibition of eryptosis by certain compounds from *Diospyros mespiliformis*

Malaria is a vector-borne parasitic disease that affects the erythrocytes. It is well documented that malarial parasites manipulate the apoptotic pathway of their host cell to achieve intracellular survival. Little is known about host-parasite interaction of the erythrocytic stages of infection. Previous research from our laboratory has shown that *Diospyros mespiliformis* has antimalarial effects but mechanism of action and effects on eryptosis has not been studied. Therefore, the interplay between malarial parasite and host red blood cell death mechanisms using animal model is presently being studied.

- Phytomedicinal combinative therapy; the comparative effects of the antiplasmodial and mitoprotective activities of the combination of *Azadirachta indica* and *Curcuma longa* with their respective plant extracts.

  Most antimalarial herbal preparations come in combination of two or more herbs especially in resistant malaria. Separately, it has been established that *Azadiracta indica* and *Curcuma longa* have antimalarial effects in chloroquine susceptible malarial infection but the effects of their combination on chloroquine resistant strains of malarial parasite and mitochondria of the host have not been studied. Therefore, the effect of this combination on mitochondrial dysfunction using apoptotic indices both in the liver and red blood cells are presently being studied.
- Assessment of mitochondrial dysfunction in type I diabetes mellitus and mitigating effects of aqueous extract of *Sphenocentrum jollianum*. Most antidiabetic drugs upregulate glucose uptake in type I diabetes mellitus but lack prevention of mitochondrial-mediated apoptosis that occurred in this disease. In this study, glucose uptake would be assessed and prevention of pancreatic mitochondrial apoptosis by aqueous extract of *Sphenocentrum jollianum* would be carried out by determining the expression of pro-apoptotic proteins like Bax, P53, cytochrome c and expression of anti-apoptotic protein such as Bcl2. Furthermore, Assessment of glucose uptake and upregulation of glycogen storage would be carried out using immunohistochemistry. The molecular mechanism of action of this folkloric herbal preparation would be determined via several other pathways.

c) **Project, Dissertation and Thesis BSc:** Iodine Distribution in Fish.

- **MSc:** Effects of flavonoids-rich extract from *Alstonia boonei* leaves on mitochondrial membrane permeability transition pore in normal and alloxan-induced diabetic rats.

- **PhD:** Effects of stem bark extract of *Alstonia boonei* on *Plasmodium berghei* induced malaria in mice and on mitochondrial permeability transition pore.

X. Publications

a) **Books already published: Nil**

b) **Chapters in Books already published: Nil**

c) **Articles that have already appeared in Refereed Conference Proceedings: Nil** d)

Patents and Copyrights: Nil

e) **Articles that have already appeared in learned journals**

1. Olorunsogo, O.O. and **Olanlokun, J.O.** (2005). Effects of flavonoid extracts from *Alstonia boonei* on mitochondrial membrane permeability transition in normal rats. *Journal of Applied and Environmental Sciences* 1: 67-71. (USA) (Contribution: 50%).

2. **Olanlokun J. O**. and David O. M. (2007). Antibacterial activity of partitioned methanolic extract of *Alstonia boonei* (De Wild) against some medically important pathogens. *Bioscience Biotechnology Research Asia* Vol. 4. No.1: 135-139. (India) (Contribution: 80%).

3. **Olanlokun, J.O.** (2008). Protective influence of vitamin E on the antioxidant defense system in the whole blood and liver of normal and alloxan-induced diabetic rats. *Indian Journal of Clinical Biochemistry Vol.* 23. No. 1: 62–66. (India) (Contribution: 100%).

4. **Olanlokun, J.O.**, Bolaji, O.M., Agbedahunsi, J.M. and Olorunsogo, O.O. (2012). Therapeutic effects of various solvent fraction of *Alstonia boonei* on *P. berghei*- induced malaria in mice. *African Journal of Medicine and Medical Sciences.* Vol. 41: 27-33. (Nigeria) (Contribution: 60%).

5. **Olanlokun, J.O.**, Bolaji, O.M., Agbedahunsi, J.M. and Olorunsogo, O.O. (2013). Prophylactic potentials of extract of *Alstonia boonei* stem bark on chloroquine-sensitive *P. berghei*-induced malaria in mice. *Archives of Basic and Applied Medicine* Vol. 1: No. 1: 49-53. (Nigeria) (Contribution: 60%).
6. **Olanlokun, J.O.** and Akomolafe, S.F. (2013). Antioxidant potentials of the various solvent fractions of the stem bark of *Enantia chloranta*. *Journal of Biomedical and Environmental Engineering* Vol. 6:877884. (China) (Contribution: 80%).
7. Akomolafe, S.F., **Olanlokun, J.O**., Adesina, A.J. and Olorunsogo, O.O. (2014). Protective effect of *Aloe vera* gel on the permeability transition pore in the inner membrane of rat liver mitochondria *in vitro*. *Drugs and Chemical Toxicology.* Vol. 87: 1024-1029. (United Kingdom) (Contribution: 35%).
8. **Olanlokun**, **J.O.**, David, O. M., Ilori, T. and Abe, V. (2016): *In vivo* antiplasmodial activity of extract and fractions of *Trema orientalis* in *P. berghei*-induced malaria in mice. *Journal of Coastal Life Medicine*. Vol. 4. No 10: 784-790 (Hong Kong) (Contribution: 60%).
9. **Olanlokun, J.O.,** Babarinde, C.O. and Olorunsogo, O.O. (2017). Toxicity of *Anchomanes difformis*, An Antimalarial Herb in Murine Models. *European Journal of Medicinal Plants.* Vol. 20. No. 3: 1-13. (India) (Contribution: 70%).
10. **Olanlokun O.J.,** Oyebode T.O. and Olorunsogo O.O. (2017). Effects of Vacuum Liquid Chromatography (Chloroform) Fraction of the Stem Bark of *Alstonia boonei* on Mitochondrial Membrane Permeability Transition Pore. *Journal of Basic and Clinical Pharmacy.* Vol. 8:221-225 (Singapore) (Contribution: 60%).
11. **Olanlokun, J.O.,** Adejo, D. and Olorunsogo, O.O. (2017). *In vitro* and *in vivo* effects of alpha stone, a polyherbal formula on mitochondrial membrane permeability transition pore in normal rat liver.

International Journal of Scientific Research Vol. 6. No.11: 249- 253 (India) (Contribution: 70%).

12. **Olanlokun, J.O.,** David, O.M. and Afolayan, J.A. (2017). *In vitro* antiplasmodial activity and prophylactic potentials of extract and fractions of *Trema orientalis* (Linn.) stem bark. *BMC Complementary and Alternative Medicine.* Vol. 17:407-418. (United Kingdom) (Contribution: 70%).
13. **Olanlokun, J.O**., Olorunsogo, O.O. (2018). Toxicology of solvent extract and fractions of *Alstonia boonei* (DC.) Wild stem bark in Rats. *Journal of Herbmed Pharmacology*. Vol. 7. No. 3: 129-135 (Iran) (Contribution: 80%) (January, 2018).
14. **Olanlokun, J.O.,** Olotu, A.F., David, O.M., Idowu, T.O., Soliman, E.S.M. and Olorunsogo, O.O. (2018). A novel compound purified from *Alstonia boonei* inhibits *Plasmodium falciparum* Lactate dehydrogenase and Plasmepsin II. *Journal of Biomolecular Structure and Dynamics.* Vol. 37, NO. 8: 2193–2200 (United Kingdom) (Contribution: 50%).
15. Adeoye, A.O., **Olanlokun, J.O.** and Bewaji, C.O. (2018). Activities of Apigenin and Quercetin on rat hepatic mitochondrial permeability transition pores. *Pharmacology online* Vol. 2: 11-22. (Italy) (Contribution: 40%).
16. **Olanlokun, J.O.**, Bakare, I., Ofoegbu, B., Uleh, P. and Olorunsogo, O.O. (2018). *Mondia whitei*, an African spice inhibits mitochondrial permeability transition in rat liver. *Preventive Nutrition and Food Science* Vol 23, No.3: 206-213 (South Korea) (Contribution: 50%).
17. ***Olanlokun, J.O.** Balogun, F. A., Olorunsogo, O.O. (2018). Chemotherapeutic and prophylactic antimalarial drugs induce cell death through mitochondrial-mediated apoptosis in murine models. *Drug and Chemical Toxicology* Vol 44, No 1: 47-57 (United Kingdom) (Contribution: 70%).
18. *Adeoye, A.O., **Olanlokun, J.O**., Tijani, H., Lawal, S.O., Babarinde, C.O., Akinwole, M.T., Bewaji,

C.O. (2019). Molecular docking analysis of apigenin and quercetin from ethylacetate fraction of *Adansonia digitata* with malaria-associated calcium transport protein: An *in silico* approach. *Heliyon* Vol 5, No: e02248 (Netherlands) (Contribution: 30%).

19. ***Olanlokun, J.O.,** Balogun AA, OLorunsogo OO (2020). Regulated rutin co-administration reverses mitochondrial-mediated apoptosis in *Plasmodium berghei*-infected mice. *Biochemical Biophysical Research Communication* Vol 522 No 2: 328-334. (Netherlands) (Contribution: 70%)
20. ***Olanlokun J.O.**, Babarinde C.O., Lawal O.S., Olorunsogo O.O. (2020). Erythrocyte membrane stabilisation, protease activities and antioxidant properties of the stem bark extract of *Alstonia boonei* (DC). *Achieves of Basic and Medical Science* Vol 8:35-44. (Nigeria) (Contribution: 60%).
21. ***Olanlokun J.O.**, Lawal O.S. Olorunsogo O.O. (2020) Modulatory Effects of Ethyl Acetate and Methanol Fractions of the Stem Bark Extract of *Alstonia boonei* on Mitochondrial-Mediated Apoptosis. *Journal of Herbs, Spices and Medicinal Plants* Vol 26, No 4: 1-16. (United States of America) (Contribution: 70%)
22. ***Olanlokun J.O**., Olotu F.A., Idowu O.T., Agoni C., David O.M., Soliman M, Olorunsogo O.O. (2020). In vitro, in silico studies of newly isolated tetrahydro-4-(7-hydroxy-10- methoxy-6, 14-dimethyl15-m-tolylpentadec-13-enyl) pyran-2-one and isobutyryl acetate compounds from *Alstonia boonei* stem bark. *Journal of Molecular Structure* Vol 1216: 128225-128240. (Netherlands) (Contribution: 50%)
23. ***Olanlokun, J.O.**, Oloke K, Olorunsogo OO (2020) Methanol extract and fraction of *Anchomanes difformis* root tuber modulate liver mitochondrial membrane permeability transition pore opening in rats. *Avicenna Journal of Phytomedicine*. Vol 10 No 2: 190-201. (Iran) (Contribution: 70%)
24. ***Olanlokun J.O**., Adetutu A, Olorunsogo O.O (2019). *In vivo* antiplasmodial effects of *Diospyros mespiliformis* and *Mondia whitei* methanol extracts on *Plasmodium berghei*-induced malaria in mice. *Interventional Medical and Applied Science.* Vol 11, No 4: 197-206. (Hungary) (Contribution: 70%)

25. *Olowofolahan AO, **Olanlokun JO**, Olorunsogo OO (2020). The GC-MS analysis and phyto-protective effect of chloroform fraction methanol leaf extract of *Drymaria chordata* against MSG-induced lesion in specific tissues *African Journal of medicine and medical sciences* Vol 49, No 3: 409-419. (Nigeria) (Contribution: 40%).

26. ***Olanlokun, J.O**., Babarinde, C.O., Olorunsogo, O.O. (2020). Antimalarial properties and preventive effects on mitochondrial dysfunction by extract and fractions of *Phyllanthus amarus* (Schum. And Thonn) in *Plasmodium berghei*-infected mice. *Journal of Basic and Clinical Physiology and Pharmacology.* Vol 32 No 3:255-266. (Germany) (Contribution: 70%).

27. ***Olanlokun JO**, Bodede O., Prinsloo G., Olorunsogo OO. (2021). Comparative antimalarial, toxicity and mito-protective effects of *Diospyros mespiliformis* Hochst. ex A. DC. and *Mondia whitei* (Hook.f.) Skeels on *Plasmodium berghei* infection in mice. *Journal of Ethnopharmacology.* Vol 268: 113585. (Ireland) (Contribution: 60%)

28. *David OM, **Olanlokun, JO**, Owoniyi BE, Ayeni M, Ebenezer O, Koorbanally N. (2021). Studies on the mitochondrial, immunological and inflammatory effects of solvent fractions of *Diospyros mespiliformis* Hochst in *Plasmodium berghei* infected mice. *Scientific Reports*. Vol 11: 6941. (United Kingdom) (Contribution: 60%).

29. ***Olanlokun, JO**, Okoro PO, Lawal OS, Bodede O, Olotu FA, Idowu TO, Prinsloo G, Soliman ME, Olorunsogo OO (2021). Betulinic acid purified from *Alstonia boonei* inhibits folate biosynthesis in malarial *Plasmodium*, enhances mitochondrial pore opening and F_1F_0 ATPase in mice. *Journal of Molecular Structure*. Vol 1239:130454. (Netherlands) (Contribution: 50%).

30. ***Olanlokun, JO**, Olowofolahan AO, Bodede O, Adegbuyi AT, Prinsloo G, Steenkamp P, Olorunsogo OO (2021). Anti-inflammatory potentials of the *n*-hexane fraction of *Alstonia boonei* stem bark in lipopolysaccharide-induced inflammation in Wistar rats. *Journal of Inflammation Research* Vol 14: 3905-3920 (New Zealand). (Contribution: 60%).

31. ***Olanlokun JO,** Okoro PO, Olorunsogo OO (2021). The roles of betulinic acid on circulating concentrations of creatine kinase and immunomodulation in mice infected with chloroquine-susceptible and resistant strains of *Plasmodium berghei*. *Journal of Parasitic Diseases* (India) (Contribution: 70%)

32. ***Olanlokun JO**, Balogun AA, Olorunsogo OO (2021). Influence of artesunate combinative therapy coadministration with rutin on inflammatory cytokines and immunoglobulins in *plasmodium berghei*infected mice. *The Journal of Parasitology* Vol 107, No 4: 639-647 (United States of America) (Contribution: 70%)

33. ***Olanlokun JO**, Ekundayo MT, Ebenezer O, Koorbanally NA, Olorunsogo OO (2021). Antimalarial and erythrocyte membrane stability properties of *Globimetula braunii* leaves (Engle van Tiegh) growing on cocoa in *Plasmodium berghei*-infected mice. *Journal of Infection and Drug Resistance*. Vol 14, 37953808 (New Zealand) (Contribution: 60%)

34. *Bello IJ, Oyebode OT, **Olanlokun JO**, Omodara TO, Olorunsogo OO (2021). Plumbagin induces testicular damage via mitochondrial-dependent cell death. *Chemico-Biological Interactions.* Vol 347: 109582. (Ireland) (Contribution: 30%).

35. ***Olanlokun JO**, Olorunsogo OO (2021) *Azadirachta indica* (A. Juss.) and *Curcuma longa* (L.) modulate immunoglobulin and cytokine levels in Plasmodium berghei-infected mice. *Journal of Comparative Clinical Pathology*. 30: 871-880 (United Kingdom) (Contribution: 80%).

36. *Oyebode OT, **Olanlokun JO**, Salami O, Obi I,Bodede O, Prinsloo G, Olorunsogo OO (2021) Terpenerich fractions of Ficus mucoso (Welw) modulate lipopolysaccharide-induced inflammatory mediators and aberrant permeability of the inner mitochondrial membrane in murine animal model. *Inflammopharmacology* Doi: 10.1007/s10787-021-00876-x. (Switzerland) (Contribution: 40%).

37. ***Olanlokun JO**, Abiodun WO, Ebenezer O, Koorbanally NA, Olorunsogo OO (2021). Curcumin modulates multiple cell death responses, matrix metalloproteinase activation and cardiac protein release in susceptible and resistant *Plasmodium berghei*-infected mice. *Biomedicine and Pharmacotherapy.* Vol. 146: 112454 (France) (Contribution: 70%)
38. ***Olanlokun JO,** Ekundayo MT, Koorbanally NA, Olorunsogo OO (2022). Hexane fraction of *Globimetula braunii* induces mitochondria-mediated apoptosis in *Plasmodium berghei*-induced mice. Toxicology Reports. Vol. 9: 769-777 (Ireland) (Contribution: 60%)
39. ***Olanlokun JO**, Oyebode OT, Popoola D, Bodede O', Idowu TO, Moodley R and Olorunsogo OO (2022) *In vitro* effects of 2-methyl-3-propylbutane-1,4-diol purified from *Alstonia boonei* on erythrocyte membrane stabilisation and mitochondrial membrane permeabilisation . *Journal of Chemical Biology and Drug Design* (Accepted) (United Kingdom) (Contribution: 50%)

***Articles that are either accepted or published in learned journals after my last promotion.**

f) **Books, Chapters in Books and Articles already accepted for publications:**

g) **Technical Reports and Monographs**: Nil.

XI. Major Conferences Attended with Papers Read (in the last 5 years)

a. Sixth Unibadan Conference of Biomedical Research, University of Ibadan, Ibadan, Nigeria. July 10-14, 2018.

Paper presented:

i. **Olanlokun, J.O.,** Balogun, F.A. and Olorunsogo, O.O. (2018). Chemotherapeutic and prophylactic antimalarials induce cell death through mitochondrial-mediated apoptosis in murine models.

ii. **Olanlokun, J.O.**, Balogun, F.A. and Olorunsogo, O.O. (2018). Alkaloid-rich fraction from *Alstonia boonei* prevents DNA fragmentation and lipid peroxidation in *Plasmodium berghei*-induced malaria in mice.

b. Seventh Unibadan Conference of Biomedical Research, University of Ibadan, Ibadan, Nigeria. September 15-17, 2021.

Paper presented:

i. Vining-Ogu IC, Oyebode OT, **Olanlokun JO**, Olorunsogo OO (2021). Ethylacetate fraction of Euphorbia hirta leaves modulate lipopolysaccharide-induced inflammatory responses in mice.

ii. **Olanlokun JO**, Ekundayo MT, Olorunsogo OO (2021) Hexane fraction of *Globimetula braunii* induces mitochondria-mediated apoptosis in *Plasmodium berghei*-infected mice.

iii. **Olanlokun JO,** Olowofolahan AO, Bodede O, Prinsloo G, Steenkamp P, Olorunsogo OO (2021) Antiinflammatory potentials of the n-hexane fraction of *Alstonia boonei* stem bark in lipopolysaccharideinduced inflammation in Wistar rats.

iv. **Olanlokun JO,** Bodede O, Prinsloo G, Olorunsogo OO (2021) Comparative antimalarial, toxicity and mito-protective effects of *Diospyros mespiliformis* Hochst. Ex. Dc and *Mondia whitei* (Hook F.) Skeels on *Plasmodium berghei* infection in mice.

v. Bello IJ, Oyebode OT, **Olanlokun JO,** Olorunsogo OO (2021) Plumbagin-induced mitochondrialdependent testicular damage in male Wistar rats.

vi. Babarinde CO, **Olanlokun JO**, Olorunsogo OO (2021) Antimalarial and mito-protective effects of *Phyllanthus amarus* (Scchum. And Thonn.) in *Plasmodium berghei*-infected mice.

vii. **Olanlokun JO**, Abiodun WO, Olorunsogo OO (2021) Studies on cardiac proteins, matrix metalloproteinase and cell death responses to acute malaria treated with mefloquine and the role of curcumin supplementation.

viii. **Olanlokun JO**, Ekundayo MT, Ebenezer O, Koorbanally NA, Olorunsogo OO 92021) Antimalarial and erythrocyte membrane stability properties of *Globimetula braunii* (Engle van Tiegh) growing on cocoa in *Plasmodium berghei*-infected mice.

ix. **Olanlokun JO,** Okoro PO, Olorunsogo OO (2021) The roles of betulinic acid on circulating concentrations of creatine kinase and immunomodulation in mice infected with chloroquine susceptible and resistant strains of *Plasmodium berghei.*

c. i. Tenth World Congress on Targeting Mitochondria Berlin October 27-29, 2019

Poster Presented:

Olanlokun, J.O., Balogun, F.A., Olorunsogo, O.O. (2019). Rutin reverses mitochondrial-mediated apoptosis in *Plasmodium berghei*-infected mice. ii. Seventieth American Society for Tropical Medicine and Hygiene Conference Arlington, VA 22202,

United States of America 17-21 November, 2021.

Poster Presented:

Olanlokun, J.O., Abiodun WO, Olorunsogo, O.O. (2021). **:** Host inflammatory, matrix metaloproteinase and cell death responses to acute malaria treated with mefloquine and the role of curcumin supplementation.

iii. Fifteenth International Congress of Parasitologist, Copenhagen, Denmark August 21-26, 2022.

Paper Presented:

Olanlokun, J.O., Abiodun, W. O., Olorunsogo, O. O. (2022). Curcumin supplementation with mefloquine treatment in malaria blunts FIKK12, MAPK, Aquaporin-3 and up-regulates NADH Oxidoreductase and Cytochrome Oxidase expressions.

_____ Dr

John Oludele Olanlokun