



B.R.A.N.S

Building Research and Innovation in Nigeria's Science



ANNUAL D43 NETWORKING CONFERENCE

AUGUST 4, 2018

Professor Folasade Ogunsola

Principal Investigator

College of Medicine, University of Lagos





Building Research and Innovation in Nigeria's Science (BRAINS)

College of Medicine
University of Lagos
Folasade Ogunsola
Principal Investigator

Training
Advisory
Committee

Prof AO Atoyebi
Prof Christian Harpi
Prof Atiene Sagay
Dr Tillerson

Mentored Research Program

Curriculum Development

HSPH | NU

Masters (MSc) in Clinical Investigation

E-Learning

Ch Bose Afolabi
Biola Oduwole

HIV Outcomes

Sulaimon Akanmu

HSPH

NU

Community Medicine

Adedayo Onajole

APIN

Genomics/ Bioinformatics

Lanre Adeyemo

HSPH

Biomedical Engineering

Akinniyi Osuntoki

NU

Neurosciences

Njide Okubadejo

NU



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NORTHWESTERN
UNIVERSITY



GOALS OF BRAINS

- Build **research Capacity** using two approaches
 - Train faculty on relevant coursework to ensure they are equipped to conduct research, develop projects, follow all proper protocols in conducting research, and produce strong manuscripts to present their findings.
 - By Year 5 of this grant to have formalized these courses into an official M.Sc. program focused on Clinical Investigation.
 - Build a robust mentored research program that pairs junior faculty with senior researchers to allow for utilization of skills developed through coursework and practice of research.
 - During this process there will be opportunities for a few faculty to travel for courses at Harvard and Northwestern universities
- Develop **capacity in innovation** in Biomedical engineering



What we have done this year





TRAINING AT CMUL

(August 2017 – July 2018)

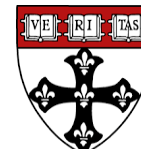
S/N O.	TRAINING	DATE	MALE	FEMALE	TOTAL
1	Research Design and Methodology Workshop	August 15 – 17, 2017	13	13	26
2	Bioinformatics Workshop	January 9 – 11, 2018	19	23	42
3	Mentoring Workshop	February 21 – 22, 2018	24	19	43
4	Manuscript Writing Workshop	March 12 – 14, 2018	22	22	44
5	Case-Based Method of Teaching Workshop	March 26 – 27, 2018	26	21	47

10 Trainings / 292 trained



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TRAINING

S/N O.	NAME OF TRAINING	DATE	MALE	FEMALE	TOTAL
6	Master of Science in Clinical Investigation	March 28 – June 20, 2018	2	1	3
7	e-Learning Workshop	April 18 – 19, 2018	16	14	30
8	Viral Genomics Workshop	May 7 – 11, 2018	2	2	4
9	Responsible Conduct of Research/Grant Writing Workshop	June 27 – 29, 2018	10	11	21
10	Introductory Genomics/Bioinformatics Workshop	July 10 – 12, 2018	17	15	32

10 Trainings / 292 trained

AT Northwestern



Northwestern University, Chicago:
March 28 – June 20, 2018 – (Drs.
Mobolanle Balogun, Adeseye Akinsete,
Kehinde Okunade).





SUMMARY OF YEAR 1- 3 TRAININGS

S/ No	Name of training	Year 1	Year 2	Year 3	Total
1	Research Design and Methodology			26	26
2	Bioinformatics			42	42
3	Mentoring			43	43
4	Manuscript Writing		39	44	83
5	Case-based Method of Teaching		34	47	81
6	Short-term public health postgraduate course at Northwestern		2	3	5
7	e-Learning		41	30	71
8	Viral Genomics (Boston & Jos)	5	3	4	12
9	Introductory Genomics and Bioinformatics	49	38	32	119
10	Responsible Conduct of Research	45	144	21	210
11	Public Health Research in Infectious Diseases		28		28

Mentored Research

	Y1	Y2	Y3	Y4	Y5	Total
HIV & Infectious dis.	2 2*	2 2	2 2	2	0	6 8
Neurosciences	2 1	2 2	3 2	0	0	7 5
Community Medicine	* 2	* 1	* 2	0	0	* 5
Bioinformatics and Genomics	2 1*	2 2	5 0	2	0	9 5
Biomedical engineering	2 2	2 3	1 3	2	0	5 10
Total	8 8	8 10	11 9	6 (12)	0	27 33

 - expected
 - achieved

MENTORED RESEARCH

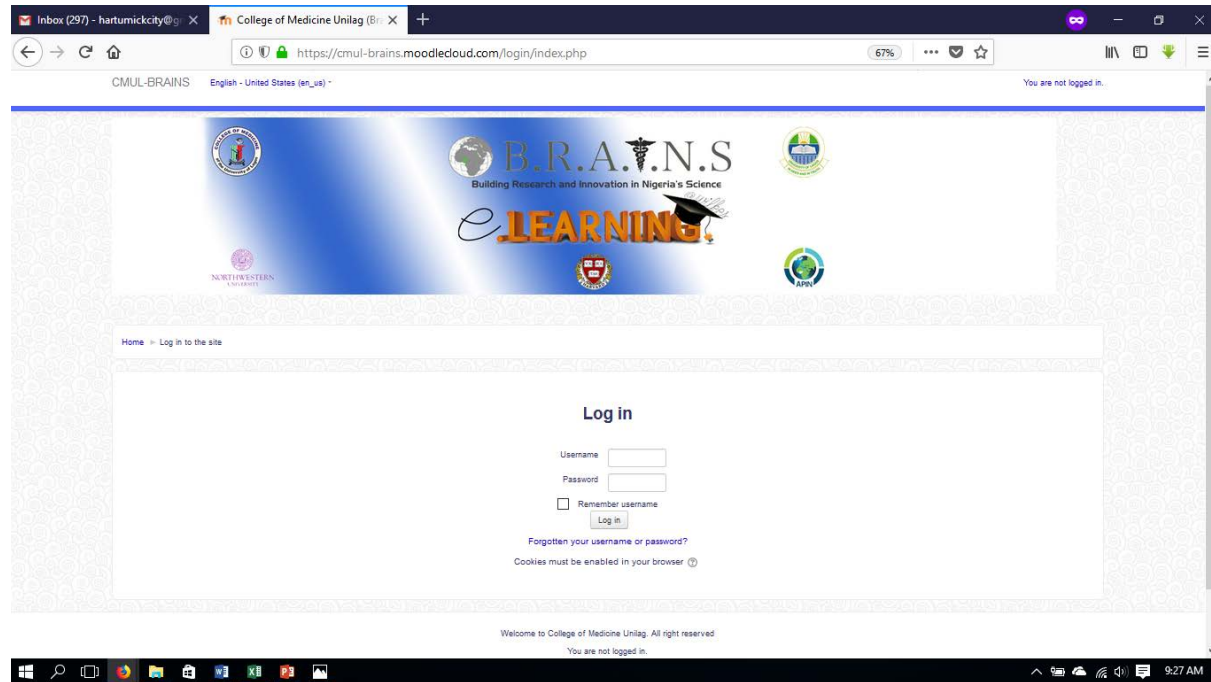
- To date, there have been sixty five (65) applications by Junior Faculty members at CMUL over the three years lifecycle of the BRAINS project.
- 27 (82%) have been awarded out of a total of 33 expected
- 4 have published 4 have submitted

Biomedical Engineering

- An interdisciplinary Biomedical Engineering Journal Club has been established with several meetings holding.
- Training on Innovation
- Outcomes
 - Antenna for Ablation of Necrotic tissue
 - Digital cuff
 - Gel for wound healing
 - Lateral flow device for diagnosis of Prostate Cancer – very exciting



e-Learning



The Responsible Conduct of Research has been migrated to the Electronic platform.

Accessible via

<https://cmul-brains.moodlecloud.com>



Outcome

- Junior faculty secured international grants and.
- **Dr. Oluwakemi Odukoya:** - a *NIH K43 Grant*, the first NIH grant to be awarded to a junior faculty in CMUL.
 - Also secured the 2017/2018 *HBNU/Fogarty Global Health Fellowship Programme*.
 - **Dr. Kehinde Okunade:** was selected for the *2018/2019 HBNU/Fogarty Global Health Fellowship Programme*.

Outcome

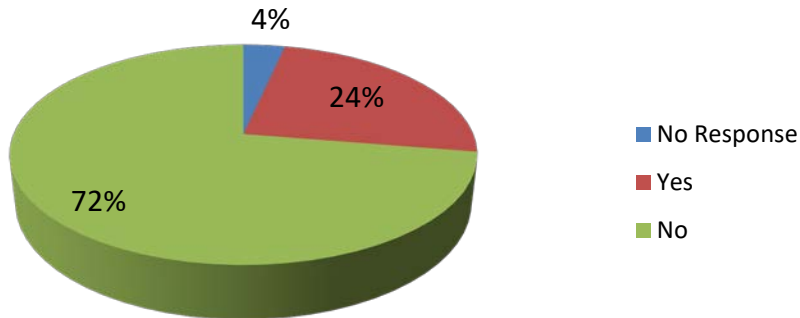
- **Dr. I.O. Ishola:** Study abstract was accepted for a poster presentation at the *18th World Congress of Basic and Clinical Pharmacology* that held from July 1-6, 2018 in Kyoto, Japan.
- **Dr. E. N. Akang:** got a grant to attend the *Basic Science Summer School in Osaka, Japan, 2018.*
- **Dr. A.K. Oloyo:** GSK Grant on Animal Research is awaiting possible funding
- **CITI registrations - 860 to 1609**

Outcome

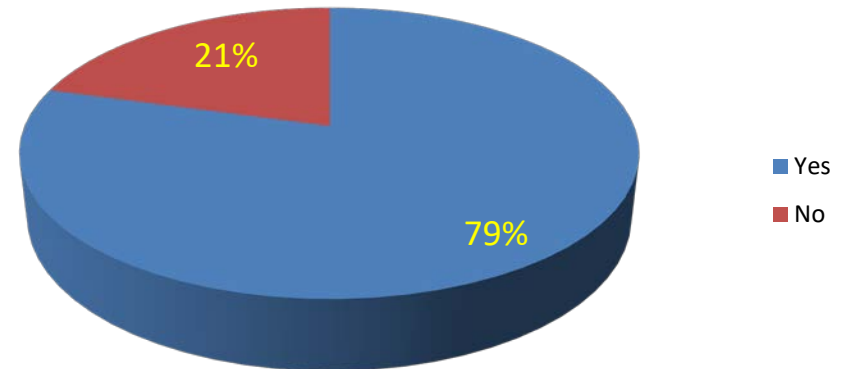
- Increased visibility of the University – requests by young researchers to come to the University
- Senior Faculty: Have been joining our training
- Multidisciplinary research has increased
- More faculty applying for grants
- New networks have developed amongst our junior faculty
- New grants have been obtained by BRAINS team and other Faculty leading to more infrastructure, equipment and involving more faculty

Challenges- Mentorship

Participation in formal mentor research training



Do you have a mentor?



Challenges

- Biomedical Engineering – Not enough proposals
- Some slow in completing their research – often due to strikes, requiring reagents not easily obtained
- Energy fluctuations

Moving Forward

- **Mentored research:** Focus will be on biomed engineering
- **E-learning:** Migrate the remaining courses onto the E-platform to spread training
- **MSc in Clinical Investigation curriculum**
Undergoing the approval process
- **Dissemination: Publications!**

AT Northwestern



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Opportunities for Collaborations

- Area of Genomics of Disease especially Breast cervical and Liver both HIV related and otherwise
- Major interest in the Microbiome and disease
- Biomedical engineering

Acknowledgement

- The Government and People of USA
- National Institutes of Health and Fogarty International Centre and the other agencies
- Our partner Universities Harvard, Northwestern
- Our Vibrant Junior Faculty
- University of Lagos staff and students



Thank you for listening!

