AFRICA CENTRE OF EXCELLENCE IN PHYTOMEDICINE RESEARCH AND DEVELOPMENT (ACEPRD)
UNIVERSITY OF JOS, NIGERIA

World Bank/AAU/ACE Workshop
Abidjan, Cote d’Ivoire

November 15-17, 2016

Prof. J.C Aguiyi
Centre Leader
## New Training Initiatives

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Mode of Implementation</th>
<th>Lessons Learnt</th>
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| **Drosophila Research Technique** | • Drosophila melanogaster has an enormous potential for African biomedical studies.  
• It is a powerful system for modeling human diseases and insect transmitted infections.  
• It also allows for rapid, cheap and thorough screening of drugs, plant extracts and other compounds in the search for disease treatments. | • Course administered Experts from University of Cambridge along with DrosAfrica Research Group Uganda, invited to Jos for first Faculty training on drosophila.  
• 3 Faculty sent for Hands-on training at ICIPE, Nairobi, Kenya  
• Returned, Set-up a Drosophila Lab.                                                                                                                                                                                                 | • Cheaper to maintain than an Animal House.  
• Cost-effective  
• Quick results of test materials                                                                                           |
The *Drosophila* life cycle

- Adult (Imago)
- Egg/Embryo (~ 1 day)
- 1st Instar Larva (1 day)
- 2nd Instar Larva (1 day)
- 3rd Instar Larva (2 days)
- Prepupa (5 days)
- Pupa
### New Training Initiatives...

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| **Preceptor Development Course** | Students being trained on the use of medicines e.g. Pharmacokinetics, adverse drug effects have needs for Preceptors to guide them on data collection and information dissemination.  
- This is in line with the Pharmaco-vigilance and toxicological studies on phytomedicines  
- Preceptors expected to train students interns on clinical clerkship                                                                                                                                       | Experts from US and UK were invited to facilitate a 5-day training in Jos.  
- Students posted to research institutes, industries and the hospitals for internship will bring their knowledge to bear on related pharmaco-vigilance and toxicological data collection                                                                 | Participants from institutes, hospitals and industries can independently collect data and disseminate on phytomedicine-related toxicological information                                                                 |

- 87 participants registered and participated  
- From Hospitals, Industries and Institutes.  
- 40 hours/5-day theory and hands-on experiences.
Preceptor Development Course...
3 New M.Sc./Ph.D Courses approved by senate

- Bioinformatics and Genomics
- Pharmaceutical Microbiology
- Pharmaceutical Biotechnology
- The other 2 courses are Clinical Pharmacy and Phytomedicine approved last year

On educational initiative coming up for the ACEPRD on Bioinformatics and Genomics

- Initiative with a National Institutes of Health (NIH-sponsored) STAMINA project and ACEPRD to train some of its Faculties in Bioinformatics and Genomics at M.Sc/PhD levels
- The adjunct lecturers will come from both STAMINA project and collaborators from Northwestern University and Harvard
- Advertisement of all approved ACEPRD M.Sc/PhD Courses starts in November to December 2016. Admission commences in January 2016.
New Approach to Medicinal Plant Information and Research

- Some plants are going out of extinction.
- The Gangnim medicinal plant project will be used continually to conserve some of these plants.
- WACREN, NgREN and all the W/A ACEPRD Partners are working towards digitizing medicinal plants and developing a pharmacopoeia.
- It is the first in West Africa.
- It will enhance basic, student and applied research.
- Phyto-raw materials for industrial partnership
- In the same, a symposium on Industry-Academia partnership is organized with our partner, Nnamdi Azikiwe University, Awka
- One of the targets of the ACEPRD is to get industrial partners to buy-into the ACEPRD goal of training students during internship
- Opening their labs for academic research with focus on drug development
- And a partnership that could lead to commercialization of 2 products: anti-snake venom vaccine and anti-fertility drug
<table>
<thead>
<tr>
<th>Activity</th>
<th>Target to date</th>
<th>Achieved to date (total and %)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLR 1.1. Total no. of enrolled students</td>
<td>204</td>
<td>37 (18.1%)</td>
<td>The targets are cumulative of Y2015 &amp; Y2016 but the deliverable is for Y2015 only. The admission process for 2016 is yet to be released by PG School</td>
</tr>
<tr>
<td>DLR 1.2. Total Regional Students</td>
<td>48</td>
<td>9 (18.7%)</td>
<td>Same as above</td>
</tr>
<tr>
<td>DLR 1.3. Total National Students</td>
<td>155</td>
<td>28 (18%)</td>
<td>Same as Above</td>
</tr>
<tr>
<td>DLR 1.4. Total M.Sc.</td>
<td>28</td>
<td>28 (100%)</td>
<td>Same as Above</td>
</tr>
<tr>
<td>DLR 1.5. Total PhD.</td>
<td>12</td>
<td>9 (75%)</td>
<td>Same as Above</td>
</tr>
<tr>
<td>DLR 1.6. Total Short Course students</td>
<td>19</td>
<td>66 (347%)</td>
<td>The cumulative total for Drosophila Research Technique and Bioinformatics and Genomics</td>
</tr>
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<tr>
<td>DLR 2.1. Faculty Internship</td>
<td>11</td>
<td>2 (18%)</td>
<td>The target is cumulative for Y2015 &amp; Y2016. The deliverable is only for Y2015.</td>
</tr>
<tr>
<td>DLR 2.2. Students Internship</td>
<td>35</td>
<td>29 (82.8%)</td>
<td>Same as Above</td>
</tr>
<tr>
<td>DLR 2.3. IGR</td>
<td>$150,000</td>
<td>$7,027.72 (4%)</td>
<td></td>
</tr>
<tr>
<td>DLR 2.4. New Revised Curricula</td>
<td>3</td>
<td>14 (466%)</td>
<td>5 M.Sc/PhD Courses and 9 short courses.</td>
</tr>
<tr>
<td>DLR 2.5. No. of Internationally recognized ACE publications as % of total number of publications produced by ACE</td>
<td>35</td>
<td>33 (86%)</td>
<td>This includes the recently verified 18 Elsevier indexed publications returned by the AAU on Oct. 20, 2016.</td>
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<tr>
<td>DLR 2.6. No. of Partnership</td>
<td>12</td>
<td>12 (100%)</td>
<td></td>
</tr>
<tr>
<td>DLR 2.7. Team Implementation</td>
<td>24</td>
<td>34 (141.6%)</td>
<td></td>
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<tr>
<td>DLR 2.8. Meeting milestones for improved learning and research environment</td>
<td>17</td>
<td>9 (52%)</td>
<td>The 15 item under this infrastructure include equipment, and activities like refurbishment of Animal House and Mushroom Farm, labs, offices, vehicles, wireless and internet connectivity, etc. Outstanding equipment to make up the remaining %</td>
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<td>DLR 3.1. Timely withdrawal application supported by financial reporting for the ACE account for the period</td>
<td>2</td>
<td>2 (85%)</td>
<td>2 IRF has been sent to the NUC. The latest IFR sent and disbursement is being awaited.</td>
</tr>
<tr>
<td>DLR 3.2. Functioning Audit Committee under the University Council</td>
<td>1</td>
<td>1 (100%)</td>
<td>Appointed in August 2015 Chaired by a Council Member of the University</td>
</tr>
<tr>
<td>DLR 3.3. Functioning Internal Audit Unit for the University</td>
<td>1</td>
<td>1 (100%)</td>
<td>Appointed in June 2015 from the University Internal Audit Unit</td>
</tr>
<tr>
<td>DLR 3.4. Web Transparency on Financial Management (Web access to audit reports, interim)</td>
<td>2</td>
<td>1 (50%)</td>
<td></td>
</tr>
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<tr>
<td>DLR 4.1. Timely and Audited Procurement</td>
<td>2</td>
<td>1 (50)</td>
<td></td>
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<tr>
<td>DLR 4.2. Timely and satisfactory procurement</td>
<td>2</td>
<td>1 (50)</td>
<td>The report of the procurement audit done in August 2016 is still being awaited</td>
</tr>
</tbody>
</table>
DELIVERABLES AFTER MAY 2016

• Bank of Industry discussion with the ACEPRD to Finance Anti-snake venom vaccine and production
• Inclusion in the University as a unit
• A budget created for the ACEPRD
• New MOU with University of Bamako to facilitate the development of the West African Pharmacopoeia and medicinal plant project
• MOU to also attract regional students to the ACEPRD
• Internship for ACEPRD students
• 2 Faculty training
• Developing 3 new courses for M.Sc/PhD: Phyto-Agronomy, Clinical Phyto-Pharmacology, Nanomedicine and Drug Development
• Provision of an accommodation for the ACEPRD science and administration
• A Central Laboratory for Biomedical Research (Useful to other Departments)
• Mushroom tissue culture laboratory
• Drosophila laboratory
• MNR Laboratory
• 3 lecture halls
• Restaurant
• Conference/Boardroom and seminar room
ACEPRD Approved Secretariat...
IGR DRIVE...

- School fees: M.Sc, Ph.D, PG D
- Short courses
- Research Grants
- Endowment Chair
- Alumni
- Patents
- Raw Materials
- Phytochemical and Toxicological analysis
THANK YOU