

# **Africa Centre of Excellence For Genomics of Infectious Disease**



**[ACE 019]**

**2016 Work Plan**

**Action Plan:****ACE action plan to achieve Learning Excellence****Timeframe:**

July 1, 2016 to September 30, 2016

**Activity:**

1.1 Foundational Genomics training course at Broad Institute/Harvard

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| RESULT  | Expand the scientific capability of students and faculty to pursue independent and collaborative studies addressing infectious disease challenges in Africa.  |   |
| ACTIVITY  | 1.1 Foundational Genomics training course at Broad Institute/Harvard  |   |
| OUTPUT  | Development of a foundational 8-week training program for members of the ACEGID Network (including site directors, trainees, students, and technical staff) to be held at the Broad Institute/Harvard. The Foundational Training program will provide core training in technical procedures, study management, and fundamental scientific concepts, as well as a 2-week research module (including paper and oral presentations).   |   |
| OUTPUT INDICATOR<br>Number of students receiving and completing the training. |   | SOURCE OF VERIFICATION<br>Project Manager: provides pictures, videos, certificates, names of participants |
| IMPLEMENTATION MILESTONES   | <ul style="list-style-type: none"> <li>- Housing and laboratory space for visiting trainees reserved by June 1, 2016</li> <li>- Coursework plan organized by June 1, 2016</li> <li>- The curriculum will include: technical procedures (diagnostic research tools, troubleshooting protocols), study management (data management, human subjects procedures, financial training), and fundamental scientific concepts (core concepts underlying microbiology, understanding the science behind technical protocols).</li> <li>- Training videos and course materials to be made public on ACEGID website</li> </ul> |   |
| RESPONSIBILITY FOR IMPLEMENTATION   | ACEGID Leadership (specifically Center Director and Project manager)  |   |
| DURATION: 3 months  | Commencement: 01 July 2016  | Completion: 30 September 2016   |
| PRIMARY CONSTITUENTS: ACEGID Faculties and staff members and students.        | PARTICIPANTS: Center Director, Project Manager, Vice Chancellor, Students, Harvard University and Broad Institute Instructors.  |   |

**Action Plan:****Timeframe:****Activity:****ACE action plan to achieve Learning Excellence**

February 1, 2016 to December 30, 2016

**1.2** On-site workshops/short-term trainings at ACEGID partner sites (RUN, UCAD, USL, UI)

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| RESULT   | Enable ACEGID members to provide training programs within Africa to their colleagues and collaborators.  |  |
| ACTIVITY   | <b>1.2</b> On-site workshops/short-term trainings at ACEGID partner sites (RUN, ISTH, KGH, UCAD, USL, UI)  |  |
| OUTPUT   | <ul style="list-style-type: none"> <li>- We will conduct annual 2-week trainings in each of the 4 ACEGID sites for the larger scientific communities, including trainees and scientists from other institutions in the various countries of the network.</li> <li>- The goal of this workshop is to bring genomics to the doorsteps of faculty and student members of ACEGID institutions in Africa.</li> <li>- The workshop will cover laboratory procedures, RNA and DNA Extraction, Host genetics and association, sequencing and sample preparation, shipping and lab safety.</li> <li>- The on-site workshop program will also provide core training in technical procedures, study management, fundamental scientific concepts, and paper and oral presentations, and community engagement.</li> </ul> |  |
| OUTPUT INDICATOR: Number of students enrolling, Number of students receiving and completing the training.    |  | SOURCE OF VERIFICATION<br>ACEGID Project Manager |
| IMPLEMENTATION MILESTONES  | <ul style="list-style-type: none"> <li>- Workshop topics and teaching materials will be developed during the Foundational training during 2016,</li> <li>- Foundational trainees will be equipped to lead training programs at their respective home institutions. Each site and each group will decide which module is of greatest interest to the site and community.</li> <li>- We aim to train 50-100 students per on-site workshop (x4) for a total of 200-400 short-course trainees for 2016.</li> <li>- Training videos and course materials to be made public on ACEGID website (November 2016)</li> </ul>   |  |
| PROCUREMENT  | Equipment and lab supplies   |  |
| RESPONSIBILITY FOR IMPLEMENTATION  | ACEGID Leadership and faculty members in ACEGID partners Institutions.   |  |
| DURATION: 11 months  | Commencement: 01 Feb 2016  | Completion: 30 December 2016                     |
| PRIMARY CONSTITUENTS: Students, faculty, Nigeria citizens, and regional students and citizens from UCAD, USL | PARTICIPANTS: All ACEGID Team members, particularly site coordinators, and Project Manager.  |  |
| ASSUMPTIONS  | MoU signed between partner institutions, travel visas approved, successful completion of foundational course by ACEGID trainees  |  |

**Action Plan:****ACE action plan to achieve Learning Excellence****Timeframe:**

Feb 1, 2016 to December 30, 2016

**Activity:****1.3** Continued M.Sc. and PhD degree programs in Genomics of Infectious Disease at Redeemer's University

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| RESULT   | Long-term educational programs will build a critical mass of life scientists in West Africa.   |   |
| ACTIVITY   | <b>1.3</b> Continued M.Sc. degree program in Genomics of Infectious Disease at Redeemer's University   |   |
| OUTPUT   | The M.Sc. program at Redeemer's University will provide core molecular biology and genomics training to 15 national and 15 regional students in 2016. Coursework will include: Genetics, Bioinformatics, Basic Principles of Microbiology, Clinical Microbiology, Epidemiology, Molecular Diagnostics Laboratory, Bioethics, and Critical Reasoning. |   |
| OUTPUT INDICATOR: completion of curriculum and submission to senate<br>Number of students enrolling in the program and completing the degree requirements. |  | SOURCE OF VERIFICATION:<br>-Decision extracts of RUN Senate<br>-Project manager                   |
| IMPLEMENTATION MILESTONES  | <ul style="list-style-type: none"> <li>- NUC accreditation (End of 2016)</li> <li>- CAPES Accreditation June 2017</li> <li>- Training videos and course materials to be made public on ACEGID website</li> <li>- Time on the website upload on the ACEGID website; integrated as master degree program. This will be ongoing</li> </ul>              |   |
| PROCUREMENT  | Advertorials, printing materials and supplies, Funds to facilitate accreditation process   |   |
| RESPONSIBILITY FOR IMPLEMENTATION  | ACEGID leadership, Redeemer's University curriculum committee, National University commission (NUC) accreditation team, International accreditation team (Brazilian CAPES)   |   |
| DURATION: 11 months  | Commencement: 01 Feb 2016  | Completion: 30 Dec. 2016  |
| PRIMARY CONSTITUENTS: RUN faculty members, ACEGID leadership, students   |  | PARTICIPANTS: ACEGID leadership, students, RUN curriculum committee, faculty members, NUC, CAPES. |

**Action Plan:****ACE action plan to achieve Learning Excellence****Timeframe:**

Feb 1, 2016 to December 30, 2016

**Activity:****1.4** Continued Ph.D. degree programs in Genomics of Infectious Disease at Redeemer's University

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| RESULT   | Graduates will develop the skills to lead independent research laboratories.   |
| ACTIVITY | <b>1.4</b> Continued PhD curriculum for genomics of infectious diseases at Redeemer's University   |
| OUTPUT   | The Ph.D. program will provide core molecular biology and genomics research training to 4 national and 4 regional students. A key portion of the program will include student participation in the foundational and advanced training courses at the Broad Institute. The degree program will require the Master's program coursework plus an independent research dissertation. |

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| <b>OUTPUT INDICATOR:</b><br>Number of students enrolling in the program and completing the degree requirements. |   | <b>SOURCE OF VERIFICATION</b><br>-Decision extract of RUN Senate<br>-Project manager |  |
| <b>IMPLEMENTATION MILESTONES</b>  | <ul style="list-style-type: none"> <li>- NUC accreditation (End of 2016)</li> <li>- In years 2-4, we will begin to enroll 26 national and regional students.</li> <li>- CAPES Accreditation June 2017</li> <li>- The curriculum will include the M.S. program coursework, plus an independent research project</li> <li>- Training videos and course materials to be made publically available on ACEGID website (November 2016)</li> </ul> |  |  |
| <b>RESPONSIBILITY FOR IMPLEMENTATION</b>  | ACEGID leadership   |  |  |
| <b>DURATION:</b> 11 months  | Commencement: 01 Feb 2016   | Completion: 30 December 2016   |  |
| <b>PRIMARY CONSTITUENTS:</b> RUN faculty members, ACEGID leadership, students                                   | <b>PARTICIPANTS:</b> ACEGID leadership, students, RUN curriculum committee, faculty members, NUC, CAPES.  |  |  |
| <b>ASSUMPTIONS</b>  | Curriculum approval by RUN curriculum committee   |  |  |

**Action Plan:** *ACE action plan to achieve Learning Excellence*  
**Timeframe:** September 1, 2016 to December 30 2016  
**Activity:** 1.6 Evaluation of education programs

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| <b>RESULT</b>  | Create a scalable model that can become a partner program for other ACE projects.  |
| <b>ACTIVITY</b>  | 1.6 Evaluation of education programs   |
| <b>OUTPUT</b>  | The training programs themselves will be rigorously evaluated. The long-term success will be evaluated by the same metrics of the ACEGID program more generally. To ensure effectiveness and efficiency, a critical component of ACEGID will be its evaluation plan. We intend to use three methods to evaluate the effectiveness and efficiency of the program. These are: process evaluation to assess the implementation of activities in the program, outcome evaluation to determine whether or not the objectives of the program have been met at the end of each program component, and impact evaluation to assess the Centre's long-term goals. |
| <b>OUTPUT INDICATOR</b><br>Number of evaluations performs and students/instructors taking part in surveys. |  |
| <b>SOURCE OF VERIFICATION:</b><br>-Project manager   |  |
| <b>IMPLEMENTATION MILESTONES</b>   | <ul style="list-style-type: none"> <li>- We will provide anonymous surveys distributed to all trainees and instructors after each module and onsite training workshop and develop metrics to evaluate the overall success of the training programs.</li> <li>- Outcome evaluation will be conducted following completing of the foundation training course in late September 2016</li> </ul>   |
| <b>RESPONSIBILITY FOR</b>  | ACEGID leadership, faculty members, ACEGID project manager   |

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| IMPLEMENTATION  |   |
| PRIMARY CONSTITUENTS: Students, faculty, ACEGID project manager, partner institutions | PARTICIPANTS: ACEGID leadership, ACEGID partner institutions, students, Faculty members, and project manager. |
| ASSUMPTIONS   |   |
| FINANCIAL IMPLICATIONS  | None  |

**Action Plan:** *ACE Action Plan for Research Excellence*  
**Timeframe:** Feb 1, 2016 – May 31, 2016  
**Activity:** 2.2 Develop a core team to lead the applied genomics research lab.

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| RESULT   | Recruit a top-level bioinformatician to direct bioinformatics practical training of students and faculty members at the genomics laboratory at Redeemer's University   |   |
| ACTIVITY   | Enhance the core team to lead the applied genomics research lab.   |   |
| OUTPUT   | <ul style="list-style-type: none"> <li>- Hire qualified Individuals (bioinformatician and technicians) that will train students and faculty members on applied genomics technologies (including next-generation sequencing) and bioinformatics.</li> <li>- Qualified technicians will be able to ensure maintenance of Illumina MiSeq Next-generation sequencers and other laboratory equipment used for teaching and research.</li> </ul> |   |
| OUTPUT INDICATOR<br>Retaining these trained personnel throughout the funding period. |  | SOURCE OF VERIFICATION<br>Employee records, Redeemers Univ. |
| IMPLEMENTATION MILESTONES  | - Hire qualified bioinformatician (December 2016)  |   |
| PROCUREMENT  | Works: Open hiring of the highly skilled persons by advertising  |   |
| RESPONSIBILITY FOR IMPLEMENTATION  | ACEGID Leadership.   |   |
| DURATION: Hiring: 1-2 months,  | Commencement:<br>Feb. 2016   | Completion:<br>Hiring Completion: April 2016                |
| PRIMARY CONSTITUENTS: All students, faculties and regional partners                  | PARTICIPANTS: Students, faculties and ACEGID leadership  |   |
| ASSUMPTIONS  | Qualified individuals in Nigerian job market.  |   |
| FINANCIAL IMPLICATIONS   | ACEGID Budget  |   |

**Action Plan:** *ACE Action Plan to Achieve Research Excellence*  
**Timeframe:** Feb 1, 2016 – December 30, 2016  
**Activity:** 2.5 Field-Site Monitoring and Support

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| RESULT   | Purchase a project vehicle and the project manager will visit all collaborative sites perform trainings, replenish supplies, and monitor diagnostic and research work. The vehicle will also be used to facilitate ACEGID outreach programmes.  |  |
| ACTIVITY   | Field-Site Monitoring and Support and outreach programmes.  |  |
| OUTPUT   | The project manager will regularly visit ISTH and other partner sites as we develop new collaborations to carry out trainings, replenish liquid nitrogen and supplies, monitor safety and human subjects compliance, and serve as a resource to site teams. . The vehicle will also aid in community engagement activities and outreach for Science students and Science teachers in secondary schools. |  |
| IMPLEMENTATION MILESTONES  | <ul style="list-style-type: none"> <li>- First monitoring date: end of March 2016</li> <li>- Monthly site visit for monitoring and evaluation</li> <li>- Outreach to secondary schools for students and teachers education</li> </ul>   |  |
| PROCUREMENT  | Vehicle and maintenance, supplies and consumables through Redeemers University.   |  |
| RESPONSIBILITY FOR IMPLEMENTATION  | Redeemer’s University procurement office  |  |
| PRIMARY CONSTITUENTS: RUN procurement office, project manager, sites coordinator | PARTICIPANTS: ACEGID leadership, Procurement unit at Redeemer’s University project manager  |  |
| ASSUMPTIONS  | <ul style="list-style-type: none"> <li>- Successful purchase of the project vehicle</li> <li>- Availability and maintenance of quality vehicle in Nigeria</li> </ul>  |  |
| FINANCIAL IMPLICATIONS   | ACEGID budget   |  |

**Action Plan:**  
**Timeframe:**

***ACE Action Plan for Attracting Regional Faculty and Students***  
**March 1, 2016 – December 31, 2016**

**Activity: 3.4 Organization of short courses for national and regional students, faculty, sector organizations and for professionals.**

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| RESULT  | Train national and regional students, faculty members, sector organization members and professionals in specific techniques and skills in genomics of infectious diseases |   |
| ACTIVITY  | Short-courses to provide trainees with specific skills in genomics of infectious diseases.  |   |
| OUTPUT  | Generate a critical mass of students with specific skills in genomics of infectious diseases.   |   |
| OUTPUT INDICATOR: Number of students attending short-courses                  |   | SOURCE OF VERIFICATION:<br>-ACEGID Website<br>-Project manager                    |
| IMPLEMENTATION MILESTONES   | -Development of different modules for short-term courses<br>-Short-term courses in molecular biology and genomics of infectious diseases                                  |   |
| RESPONSIBILITY FOR IMPLEMENTATION   | ACEGID leadership, project management   |   |
| PRIMARY CONSTITUENTS: ACEGID partner universities, Students, faculty members. |   | PARTICIPANTS: ACEGID Leadership, students, faculty members, University management |
| ASSUMPTIONS   | Successful commencement of the programme, ICT and Website running.  |   |
| FINANCIAL IMPLICATIONS  | ACEGID Budget   |   |



**Action Plan:**  
**Timeframe:**  
**Activity:**  
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**ACE action plan for ACEGID Teaching infrastructure**

January 1, 2016 to December 30, 2016

**5.2 Design and construction of ACEGID center – Teaching and lab research core**

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| RESULT   | Resources to teach students and attract faculty and conduct and sustain state-of-the-art life science research for the long-term.   |                        |
| ACTIVITY   | Design of ACEGID Teaching center  |                        |
| OUTPUT   | Education facility- A new center for faculty and students   |                        |
| OUTPUT INDICATOR<br>Detailed blueprints for centre DONE AND CONSTRUCTION INITIATED | SOURCE OF VERIFICATION<br>Documented images of design, program outreach materials, external inspectors  |                        |
| IMPLEMENTATION MILESTONES  | <ul style="list-style-type: none"> <li>- Ground-breaking ceremony of new ACEGID campus center in April 2016</li> <li>- Center grand opening to be held before the end of the project term in 2018.</li> </ul> |                        |
| PROCUREMENT  | Consultants to facilitate center design working with RUN faculty, land procured from RUN, construction firms hired  |                        |
| RESPONSIBILITY FOR IMPLEMENTATION  | ACEGID Leadership team, Redeemer's University management, Project manager.  |                        |
| DURATION: 2 years  | Commencement: April 2016  | Completion: April 2018 |
| PRIMARY CONSTITUENTS: RUN management, ACEGID Leadership, Architectural Team        | PARTICIPANTS: RUN, PO, outside contractors (Architectural team)   |                        |
| ASSUMPTIONS  | Successful engagement of local contractors for design, RUN administrative approval, local building regulations, building supplies availability  |                        |
| FINANCIAL IMPLICATIONS   | Budget from ACEGID  |                        |