KWTRP Masters level bioinformatics curriculum for East Africa.

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KEMRI-Wellcome Trust Research Programme

- Established in 1989 as a partnership between KEMRI, Oxford University and the Wellcome Trust.
- 800 staff – >100 scientific staff
- Main campus in Kilifi - smaller campus in Nairobi
- Working in most of east & southern African countries.
Research Areas

Health Systems, & Social Science

Epidemiology & Demography

Clinical Sciences

Pathogen, Vector & human Biology
Research Infrastructures
CAPACITY BUILDING

Building local capacity for research is a major aim of KWTRP
Scientific Staff

2008  40 post docs 18 (45%) African

2013  51 post docs 33 (63%) African

32 fund holders 16 (50%) African
Framework

**AIM**
- RETAIN
- TRAIN
- ATTRACT

**SCHEME**
- Post doctoral support
- Collaborative linkages
- PhD training
- Master’s training
- Postgraduate Diplomas
- Internships
- Attachments
- School leavers scheme

**TOOLS**
- Supervision
- Mentorship
- Infrastructure
- Multidisciplinarity
- Management
- Career paths
Interns since 2006

113

6 - Postdocs
21 - PhD students
14 - Masters students
36 - Research Ass’t.
36 – Other

24 have international Masters and PhD fellowships / scholarships
PhD Training

Completed

1989 – 2008
25 African
7 non African

2008 – 2013
32 African
1 non African

Current

38 African
7 non African

10 Molecular biology

18 Molecular biology
Masters level bioinformatics curriculum for East Africa

• KEMRI has received funding from Wellcome Trust to develop a MSc Bioinformatics curriculum.

• Objectives:
  – To address the gaps in the teaching of bio-informatics in East African universities,
  – Generate a cohort of highly trained Masters level bioinformaticians who will enhance bio-info teaching and research in East African universities,
  – Create a pool for future PhD training in Bioinformatics.
Objective 1
Improving the teaching of bio-informatics

• Provide high level theory and skills updating workshops for teachers by skilled trainers,
• Develop common curriculum during these workshops,
• Provide the participating institutions with eBiokit.
Objective 2:
Generate a cohort of highly trained Masters level bioinformaticians

• Train to 15 to 20 students registered with the participating universities with the aim that the university would subsequently engage some into their teaching faculty,

• The hope is that the new graduates, having received the enhanced training, will help sustain the improved curriculum beyond this project.
Methodology

• The programme will consist of teaching blocks and workshops delivered by highly experienced bio-informatics,
• Attendance of bio-info conferences,
• Attachment to a productive research centres for their research project.
• More teaching may be provided through guided online learning using resources such as Coursera or EdX.
Issues

• Develop course de novo and then try to sell it to a single university who will house the programme?

• Use South African model where bioinformatics students from different universities are brought together for a block session of concentrated teaching to enhance their theoretical background?