

Center Title and Acronym: African Centre of Excellence for Innovative Rodent pest Management and Biosensor Technology Development – ACE IRPM&BTD (Rat –Tech)

Host University and Country: Sokoine University of Agriculture, Tanzania

Center Website Address: www.afrirodents.org, www.suanet.ac.tz/spmc

Center Director and email address: Professor Apia W. Massawe. apiamas@yahoo.com; massawe@suanet.ac.tz

Primary Thematic Discipline of Center: Agriculture

Brief Description of Center:

The Africa Centre of Excellence for Innovative Rodent Pest Management and Biosensor Technology Development (Rat-Tech) is addressing the following developmental issues:

- Build capacity through training at the MSc and PhD levels in rodent taxonomy, ecology, rodent pest management, zoonoses etc. both nationally and regionally
- Establish basic and applied research programs nationally and for African scientists within the region to pursue high-impact projects in rodent pest management
- Understanding the impact of zoonotic diseases on communities and their mitigation in East and Southern Africa
- How best to use biosensor technology for various functions including diagnosis of diseases, detecting and clearance of landmines in formerly war torn areas in the world (e.g. Mozambique, Angola, Zimbabwe, Cambodia, Vietnam, etc) detecting narcotics, ivory, endangered species trafficking, etc).
- Addressing Science, Technology and Innovations for rodent pest management

Key Objectives and Expected Outcomes:

- ◆ Strengthening science, technology and innovation in rodent biology and management
- ◆ Developing African-appropriate innovations that will reduce the impact of rodents on peoples' livelihoods
- ◆ Building regional capacity in rodent research, biosensor technology and technological innovations for rodent pest management through PhD and MSc. training programmes.

Expected outcomes

- ◆ *Increase regional capacity - Training of MSc and PhD students (76% national; 24% regional enrolment) (32 PhD, >75 MSc.)*
- ◆ *Research partnerships and collaboration: The ACE IRPM&BTD will increase faculty exchanges thus promoting knowledge flow and mobility of scientists in the region*
- ◆ *Annual attraction of research funding expected to rise by 50%*
- ◆ *Promotion of teaching excellence and state-of-the-art research to make it equally attractive for enrolment of students, similar to institutions in the more advanced countries*
- ◆ *Reducing crop losses and health impact of rodents on communities: Nationally and regionally the activities of the ACE IRPM&BTD will have a profound impact on the economy and health of local communities*
- ◆ *Capacity building: Increase the number of experts/scientists working on rodents in Africa*
 - - *Training at postgraduate level, short courses, workshops, extensions services, etc*
- ◆ *Generate new knowledge on African rodents: ecology, zoonoses, pest management, biosensor technology, taxonomy, etc, through student – based research*
 - > 70 *scientific publications in peer reviewed journals*

Major Accomplishments to Date:

- ◆ Admission of 14 PhD students
- ◆ Development of two MSc, curricula
- ◆ Publications: 27 published articles with national, regional and international collaborators
- ◆ ONE Training workshop
- ◆ Procurement of some equipment (vehicles, laboratory supplies)

- ◆ Rehabilitation works on existing laboratories
- ◆ Three Agreements and Two MoUs with partners

Primary Regional and Global Partners

Regional Partners

- ◆ Mekelle University, Ethiopia
- ◆ Busitema University, Uganda

Global partners

- ◆ University of Antwerp, Belgium
- ◆ Natural Resources Institute, University of Greenwich, United Kingdom
- ◆ Institute of Zoology, Chinese Academy of Sciences, China

	Senior Faculty	Email Address	Research Area
1	Prof. Apia Massawe	apiamas@yahoo.com	Rodent Pest Management
2	Prof. Rhodes Makundi	rmakundi@yahoo.com	Ecology of rodents and zoonotic borne diseases
3	Prof. Robert Machangu	machangu@suanet.ac.tz	Zoonotics
4	Dr Georgies Mgode	georgies.mgode@apopo.org	Biosensor technology development
5	Dr Abdul Katakweba	katakweba@suanet.ac.tz	Haemoparasites
6	Prof. Loth Mulungu	mulungu@suanet.ac.tz	Rodent management technology
7	Prof. Moses Isibirye	isabiryemoseswb@gmail.com	Rodent pest management
8	Prof. Herwig Leirs	herwig.leirs@uantwerpen.be	Rodent ecology
9	Prof. Steve Belmain	S.R.Belmain@greenwich.ac.uk	Ecologically-based rodent pest management/Ecology
10	Prof. Yonas Meheretu	meheretu@yahoo.com	Rodent biology and management