

MAKERERE



UNIVERSITY

COLLEGE OF NATURAL SCIENCES



ANNUAL REPORT 2011

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LIST OF ACRONYMS

BSCB – Bachelor of Science in Conservation Biology

BSFA – Bachelor of Science in Fisheries and Aquaculture

BSIC – Bachelor of Science in Industrial Chemistry

BSPG – Bachelor of Science in Petroleum Geoscience and Production

BSCI. – Bachelor of Science

BSPC – Bachelor of Science in Sports Science

CONAS – College of Natural Sciences

BETB – Bachelor of Science in Ethnobotany

MSc. – Master of Science

BSBT – Bachelor of Science in Biotechnology

PhD – Doctor of Philosophy

NORAD – Norwegian Agency for Development Cooperation

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Foreword and Acknowledgement

I present to you the annual report for the College of Natural Sciences (CoNAS) for the year 2011. The year 2011 was a busy year for the College of Natural Sciences where major milestones were realized.

Following approval by Council, the former Faculty of Science merged with the division of Engineering Mathematics from the former Faculty of Technology to form the College of Natural Sciences. A restructuring exercise was undertaken within the College to accommodate the University wide changes of autonomy for the Colleges. In CoNAS, some units merged to form departments and new staff was recruited to support the collegiate system.

The College introduced a new programme with a view to support new knowledge areas for the growing economy of Uganda. The new programme of 'Bachelor of Science in Biotechnology' is supported by the Millennium Science Initiative of the Uganda National Council for Science and Technology funded by the World Bank. The main objective of this programme is to produce a cadre of scientists with sufficient knowledge and skills in the field of modern Biotechnology necessary for enhancing agricultural and industrial production, biodiversity and environmental conservation.

The College received a Petroleum Exploration and Production lab donation from Schlumberger International worth 3.5million USD in the department of Geology and Petroleum Studies. The lab is equipped with five workstations with software (Petrel and Techlog) used in interpretation of oil exploration data. The lab will further enhance the skills of staff and students.

The College in tandem with its mission of '*of creating and imparting knowledge in basic and applied sciences*' has endeavoured to produce graduates for various sectors of scientific and economic development of Uganda. The College continued to offer services to other Colleges by teaching branches of basic science relevant to their disciplines. Capacity building for our members of staff was realized through attendance of workshops and seminars both at national and international level. Excellence in teaching and learning has continued supported by various research activities and projects undertaken by staff and students.

However, challenges of funding, recruitment delays and retaining staff continue to affect the performance of the college. Servicing of students from other colleges worsen the problem with the student staff ratio remaining very high.

I wish to thank the Government of Uganda, University Administration and development partners for their support of our activities during the year. I also thank the College administration, staff and students for their continued support and participating in the activities of the College. I also extend thanks to all players in the successful preparation of this report. The staff for the information provided for production of the report and the College Communication Officer, Zaam Ssali who compiled the report.

We Build for the Future

Professor J.Y.T Mugisha
PRINCIPAL

Executive Summary

The College of Natural Sciences (CoNAS) is made up of two schools, the School of Biological Sciences and School of Physical Sciences. The schools are further divided into departments. The School of Physical Sciences has the departments of Mathematics, Physics, Chemistry, and Geology and Petroleum Studies. The School of Biological Sciences has the departments of Biology and department of Biochemistry and Sports Science.

In the year 2011, the CoNAS continued to deliver on its mission of creating and imparting knowledge in basic and applied sciences. The CoNAS offers programmes and courses in basic and some aspects of Applied Sciences. It should be noted that for purposes of furthering knowledge, research projects jointly handled by staff and students are conducted in all departments at graduate (Masters and PhD) level. The College endeavours to produce graduates for various sectors of a scientific nature. The College also offers services to other Colleges by teaching branches of basic science relevant to their disciplines.

The programmes offered include: Undergraduate – BSc (Majoring in Chemistry, Mathematics, Geology, Biochemistry, Botany, Zoology or Physics), BSc in Industrial Chemistry, BSc in Petroleum Geosciences and Production, BSc in Fisheries and Aquaculture, BSc in Ethnobotany, BSc in Conservation Biology, BSc in Biotechnology, BSc in Sports Science; Graduate – MSc in Physics, MSc in Chemistry, MSc in Geology, MSc in Mathematics, MSc in Mathematical Modelling, MSc Botany, MSc in Biochemistry, MSc in Zoology, MSc in Fisheries and Aquatic Sciences, PhD in Mathematics, PhD in Physics, PhD in Chemistry, PhD in Geology, PhD in Botany, PhD in Biochemistry and PhD in Zoology.

Additionally, courses in Biochemistry are taught for students from the College of Health Sciences and School of Veterinary Medicine. CoNAS also teaches students from the College of Education and External Studies, College of Computing and Information Science and School of Statistics and Applied Economics a number of courses in Chemistry, Mathematics, and Physics.

The number of students who graduated for both bachelors and graduate degrees from the College in 2011 was 379 compared to 340 for the year 2010. The registered students at undergraduate level were 1010 and 104 students for postgraduate degrees. The College had a total of 48 publications by academic staff in refereed journals arising from research undertaken.

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

This is a presentation of the annual report of the College of Natural Sciences (CONAS) for the year 2011. The report details progress and activities implemented within the year.

1.2 Vision and Mission of the College

The vision of CONAS is to be an internationally acclaimed leader with excellence in basic and applied science training and research

The mission of CONAS is to create and impart knowledge in basic and applied sciences to society through training, research and extension services for development.

1.3 Formation of the College

The College of Natural Sciences was born out of a merger of the former Faculty of Science and the division of Engineering Mathematics which was a Department in the former Faculty of Technology. The mandate of the College of Natural Sciences (CONAS) is to carry out teaching, research and extension services in the basic sciences, namely biochemistry, botany, chemistry, geology, mathematics, physics, zoology and sports science, which are foundations for the applied sciences. The College also undertakes the teaching and research in some aspects of applied sciences and renders service to other colleges.

The general functions of the College of Natural Sciences are to:

- a) Produce graduates for various sectors of scientific and economic development of Uganda and the World at large.
- b) Conduct high quality research in basic science.
- c) Offer extension services to various sectors of human activities.
- d) Provide services to other Colleges/Schools/Institutes by teaching branches of basic science relevant to their disciplines.
- e) promote joint and interdisciplinary research

1.4 The College of Natural Sciences Structure

Due to scientific uniqueness in the nine departments and the very specific scientific set up, the departments in the CONAS were merged to form two schools:

1. School of Biosciences
2. School of Physical Sciences

1.4.1 Units of the Schools in CONAS

The College has six departments namely, Biochemistry and Sports Science, Biological Sciences, Chemistry, Geology and Petroleum Studies, Mathematics, and Physics. Each Department has a specific role/mandate in teaching and research as outlined below:

(a) School of Biosciences

- *The Department of Biochemistry and Sports Science*

The Department of Biochemistry and Sports Science is responsible for teaching biochemistry and sports science in the Colleges of Natural Sciences, College of Health Sciences and School of Veterinary Medicine. The Department plans to widen the application of biochemistry and molecular biology for sustainable development. It is planning to change its name to “*The Department of Biochemistry and Molecular Biology*”. The department will temporarily be together with Sports Science until both grow into independent departments. Sports Science is geared towards producing graduates who are equipped with adequate scientific knowledge and skills to serve in the sports industry and enhance development of

both elite and mass sports, for all individuals irrespective of age, physical ability or level of skill both in and outside Uganda.

- ***The Department of Biological Sciences***

The department offers a broad range of courses in plant and animal sciences, as well as conservation biology, biotechnology and the utilisation of plant and animal resources for the benefit and welfare of mankind. Graduates of the department become skilled at playing important roles in the study and improvement of animal production, public health and food safety conservation of biodiversity including genetic and wildlife resources, fisheries and aquaculture. The courses offered by the department of Biological Sciences fall within the fields of genetics, animal and plant breeding, evolutionary biology, animal and plant physiology, microbiology, insect, fish and plant pathology, Entomology, Parasitology, Ecology and Natural resources conservation, Fresh water biology, Taxonomy and Ethnobotany. The herbarium and botanic garden are key facilities for the teaching and research in botany and related fields while the museum and aquarium are one of several facilities that aid training in the animal sciences. The Department also conducts specialized training in very practical fields such as Aquaculture (fish farming), Apiculture (beekeeping), Water Quality Assessments, GIS and Bioinformatics and also offers consulting services in biodiversity and environmental impact assessments, plant species identification, among others. In Fisheries and Aquatic Sciences, the Department gives specialized training in fisheries science in Uganda, in particular and in East Africa in general. Otherwise before 2001 this specialized training was only offered at Diploma level at the Training Institute at Entebbe..

Other supportive disciplines are studied in the department: GIS and bioinformatics training, data collection and analysis, computer literary and communication skills.

(b) School of Physical Sciences

- ***The Department of Chemistry***

Chemistry is the key to many other sciences and therefore orientated towards interdisciplinary teaching and research. The department is also involved in teaching applied chemistry through the programme called Industrial Chemistry. The Department also strongly supports the establishment of the planned central laboratory facility, which will serve the College as a whole. The Department will contribute equipment as well as technical staff in offering service analyses, consultancy in research and practical training for selected target groups within the College.

- ***The Department of Geology and Petroleum Studies***

The Department of Geology and Petroleum Studies is the only department teaching geology in the country. It also teaches geosciences and petroleum production. Its graduates are employed in ground water, mineral and petroleum exploration and mineral sectors. The department also offers extension services to various sectors that deal with geological materials. With the introduction of a new degree programme students' population has rapidly increased in the department. The Department of Geology and Petroleum Studies is very popular at the College following the exploration and discovery of oil in Uganda. It offers courses at undergraduate, masters and PhD levels. One of the recent developments is the introduction of the Bachelor of Science degree in Petroleum Geosciences

and Production. There are also plans to introduce a master's programme in Petroleum Geosciences and Production.

- ***The Department of Mathematics***

The Department of Mathematics is involved in promoting adventure and discovery in the learning and teaching of mathematics.

It is involved in the teaching of mathematics in the College of Natural Sciences, Humanities and Social Sciences, Health Sciences, Education, Computer Science, and School of Statistics and Applied Economics (SSAE). It has its extension services arm: The Uganda Mathematical Society. Together, they organize an annual schools mathematics contest in mathematics at all levels with aim of popularizing the subject.

- ***The Department of Physics***

The Department of Physics has been a leader in training physicists in this country for a long time. Its activities range from servicing education and research in Solar energy, materials Sciences, radiation physics and many other practical related programmes. It boasts of newly refurbished laboratories under the Millennium Sciences Initiative programme.

2. CORE FUNCTIONS

2.1 Teaching and Learning

The College of Natural Sciences offers courses in basic and some aspects of Applied Sciences. Additionally, we have courses in Biochemistry for students from the College of Health Sciences and School of Veterinary Medicine. We also teach students from the College of Education and External Studies, College of Computing and Information Science and School of Statistics and Applied Economics a number of courses in Chemistry, Mathematics, and Physics.

In addition to the theoretical classes by our students, courses offered at the College are supplemented by laboratory based learning for practicals and e-learning. The department of biology also conducts field-based teaching to supplement the work in laboratories. This offers the students an appreciation of the work handled in class. Field attachments to ensure hands-on experience for the students has been introduced.

The College has a herbarium and museum that staff and students use for curation (preserving and preparing of materials). Work in the herbarium is conducted physically and electronically, since the facility was recently digitized. A botanical garden is also maintained for practical work. In addition, an aquarium with live fish is available for practical classes for the zoology and aquaculture students.

It should be noted that for purposes of furthering knowledge, research projects jointly handled by staff and students are conducted in all departments at graduate (Masters and PhD) level.

The student enrolment for the year 2011 was as follows:

Table 1: Undergraduate Students in 2011

Programme	Year I	Year II	Year III	Grand Total
BSCI.	106	131	134	371
BSIC	67	64	55	186

BSFA	16	13	19	48
BETB	23	9	22	54
BSPC	49	32	33	114
BSCB	12	15	17	44
BSPG	67	58	40	165
BSBT	28	-	-	28
Total	368	322	320	1010

Table 2: Postgraduate Students in 2011

Department	M.Sc.	PhD	Total
Biochemistry and Sports Science	2	1	3
Biological Sciences	19	17	36
Chemistry	11	8	19
Geology and Petroleum Studies	0	0	0
Mathematics	26	6	32
Physics	11	3	14
Total	69	35	104

Table 3: Total number of graduates in 2011 compared with 2010

Programme	Bachelors		Masters		Doctorates		Total		Grand Total	Graduates 2010
	F	M	F	M	F	M	F	M		
BSCI	48	127	6	12	1	1	55	140	195	197
BSIC	23	58	-	-	-	-	23	58	81	64
BSFA	9	23	-	-	-	-	9	23	32	28
BETB	5	3	-	-	-	-	5	3	8	7
BSPC	7	26	-	-	-	-	7	26	33	22
BSCB	6	10	-	-	-	-	6	10	16	19
BGRM	4	10	-	-	-	-	4	10	14	3
BSPG	-	-	-	-	-	-	-	-	-	-
Total	102	257	6	12	1	1	109	270	379	340

Table 4: Qualifications of Academic Staff at CONAS in 2011

Department	PhD	Masters	Bachelors	Total
Biochemistry and Sports Science	11	13	2	26

Biological Sciences	32	3	3	38
Physics	9	6	3	18
Mathematics	9	10	3	22
Chemistry	8	13	1	22
Geology and Petroleum Studies	10	3	0	13
Total	79	48	12	139

Table 5: Staff numbers on ground as of 2011

Department		P	AP	SL	L	AL	Curators	TA	Total
Biochemistry and Sports Science	Biochemistry	1	1	1	6	4		4	17
	Sports Science	0	0	0	0	2		7	9
Biological Sciences	Zoology	2	2	5	5	3	1	2	20
	Botany	2	4	2	4	0	2	4	18
Physics		3	0	1	5	4		5	18
Mathematics		2	0	1	7	6		5	21
Chemistry		2	2	2	6	6		4	22
Geology and Petroleum Studies		0	2	3	4	4		1	14
	Total	12	11	15	37	29	3	32	139

Key: P = Professor; AP = Associate Professor; SL = Senior Lecturer; L = Lecturer; AL = Assistant Lecturer; TA = Teaching Assistant

Table 6: Publications in refereed Journals in 2011

Specialty	Publications in ref. Journals
Biochemistry and Sports Science	6
Biological Sciences	17
Chemistry	6
Geology and Petroleum Studies	1
Mathematics	7
Physics	11
Total	48

2.1.1 Appointments, Promotions and Departures

During the year 2011, the College received newly appointed staff while others were promoted. The College also registered departure of staff. The details are:

Promotions:

- ❖ Prof. J.C. Enyaru was promoted to the rank of Professor in the Department of Biochemistry and Sports Science.

- ❖ Prof. F. Bugenyi was promoted to the rank of Professor in the Department of Biological Sciences.
- ❖ Dr. F.J. Muyodi was promoted to the rank of Associate Professor in the Department of Biological Sciences.
- ❖ Dr. A. Muwanga was promoted to the rank of Associate Professor in the Department of Geology and Petroleum Studies.
- ❖ Dr. M.Ntale was promoted to the rank of Senior Lecturer in the Department of Chemistry.
- ❖ Dr. I.N. Ssemanda was promoted to the rank of Senior Lecturer in Department of Geology and Petroleum Studies.
- ❖ Dr. W.T. Ireeta was promoted to the rank of Lecturer in the Department of Physics.

Appointments:

- ❖ Dr. Alibu Vincent was appointed as Lecturer in the Department of Biochemistry and Sports Science.
- ❖ Dr. G. Kasozi was appointed as a Lecturer in the Department of Chemistry.
- ❖ Dr. V.A. Ssembatya a former Senior Lecturer in the Department of Mathematics was appointed Director of Quality Assurance in the University Service.
- ❖ Mr. S. Tusiime was appointed as an Assistant Lecturer in the Department of Physics
- ❖ Mr. N. Muyinda was appointed as a Teaching Assistant in the Department Mathematics.
- ❖ Mr. K. Arinaitwe was appointed as an Assistant Lecturer in the Department of Chemistry.
- ❖ Mr. P. Sebugere as an Assistant Lecturer in the Department of Chemistry.
- ❖ Mr. E. Mubiru as an Assistant Lecturer in the Department of Chemistry.
- ❖ Mr. S. Yiga as an Teaching Assistant in the Department of Chemistry.
- ❖ Ms. A. M. Mohammed as an Teaching Assistant in the Department of Chemistry.
- ❖ Mr. R. Ochieng as an Teaching Assistant in the Department of Chemistry.

Departures:

- ❖ Dr. A. Rwendire a Senior Lecturer in the Department of Biochemistry and Sports Science resigned.
- ❖ Dr. G. Gargent a Lecturer in the Department of Biochemistry and Sports Science resigned.
- ❖ Ms. S.F. Sanyu an Assistant Lecturer in the Department of Biochemistry and Sports Science resigned.
- ❖ Mr.U. Mwidu an Assistant Lecturer in the Department of Physics resigned.

2.2 Research and Innovations

In the year 2011, the various departments in the College continued to undertake research and attended meetings within and outside Uganda intended to enhance their work, knowledge and partnerships. The College continued to initiate new research and some of the projects ended while others that began earlier are still on-going.

The College for purposes of furthering knowledge undertakes research in various areas under the individual departments. The projects are mainly funded by development partners or as collaborations with universities and research institutions in other countries. The research is jointly handled by staff and students at graduate (Masters and PhD) level.

School of Biosciences

Department of Biochemistry and Sports Sciences

- 1. Project Title: Integrated Process for sustainable agroprocess, waste treatment and climate change mitigation in eastern Africa.** The project goal is to contribute to climate change mitigation, environmental sustainability, and agricultural development by applying strategic waste management innovation systems in eastern Africa focusing on Ethiopia, Tanzania and Uganda.

Specific Objectives:

- Strengthen capacity to sustainably manage agro-process waste water in eastern Africa
- Develop and optimize innovative waste water treatment processes integrating biogas production and water/nutrient reuse for enhanced industrial and agricultural productivity in eastern Africa
- Evaluate and disseminate the economic, environmental and social benefits of the integrated waste water treatment bioprocesses

The project brings together scientists with expertise in environmental biotechnology from Makerere University and Addis Ababa University. The University of Dar es Salaam brings in engineers with experience in wetland technologies while Biomass and Renewable Energy Rwanda backstops project activities with technical skills in design and installation of industrial scale biogas digester plants.

Investigator: Dr. J. Kyambadde

Funder: Bio-Innovate Africa

Funds: USD 1.2million

- 2. Transcriptomics and proteomics in human sleeping sickness pathogenesis and diagnosis (DFG)** The objectives of the research project are: To study the immune and inflammatory reactions in African trypanosomiasis patients; To determine the effects of human environment on trypanosomes to provide information on human-trypanosome interactions; and to characterise

transcriptomes of infecting trypanosomes in order to access whether there are differences between parasites in CSF and blood.

Funder: Germany African

Amount of funding: Euro 257,000.00

Duration: 3 years (April 2010-December 2013)

Principal Investigator: Professor Christine E. Clayton

Team Leader Uganda: Professor John C.K. Enyaru

Co-Investigator Uganda: Dr. Enock Matovu

Collaboration: Research collaboration between Makerere University, Uganda and Zentrum für Molekulare Biologie, University of Heidelberg, Germany

3. **Development and application of diagnostic tests for trypanosomes in tsetse flies** The objectives are: To evaluate existing technologies for the detection of trypanosomes in tsetse flies; to develop and evaluate new tests for detection; and to xenomonitoring of trypanosomes in tsetse flies Evaluate surveillance/monitoring tools under field conditions

Funder: Bill & Melinda Gates Foundation

Amount of funding: US \$ 8,691,707.00 **Duration:** 5 years (November 2008-December 2013)

Team composition Principal Investigator: Professor John C.K. Enyaru

Co-Investigator, Uganda: Dr. Enock Matovu

Co-Investigator, Kenya: Drs. Johnson Ouma of KARI-TRC and Dan Masiga of ICIPE

Co-Investigator, Tanzania: Dr. Inma Malele of TTRI

Co-Investigator, Malawi: Professor John Chisi, of University of Malawi.

Co-Investigator, Sudan: Professor Intisar Elrayah of TMRI

Co-Investigator, DR Congo: Dr. Philemon Mansinsa

Co-Investigator, Republic of Congo, Brazzaville: Dr. Nicolas Mbongo

Co-Investigator, Uganda: Dr. Enock Matovu

Collaboration: Makerere University, Uganda, and International Centre of Insect Physiology and Ecology (ICIPE), Kenya Agricultural Research Organization (KARI)-Trypanosomiasis Research Institute (TRC) Kenya; Tsetse and Trypanosomiasis Research Institute (TTRI), Tanzania; Tropical Medicine Research Institute (TMRI), Sudan; University of Malawi, Malawi; The National Program

of Control of Human African Trypanosomiasis (NPHAT), Congo Kinshasa ; Laboratoire national de sante' Publique (LNSP), Congo Brazzaville and Astel Diagnostics, a Private partner, Uganda.

Department of Biological Sciences

4. **Development of a new degree programme**, BSc. in Biotechnology in the department of Biological Sciences under Botany.

Funder: MSI (Millenium Science initiative) Project under the Uganda National Council for Science and Technology supported by World Bank

Project funds: UD\$ 1.249 million

5. **Project to study of Epidemiology and Vector Transmission Biology of Sweet potato mild mottle virus (SPMMV) in Uganda.** The project is intended to support 2 M.Sc students (for 2-years, 2011-2013) studying The Project is coordinated and implemented by Department of Biological Sciences, in collaboration with College of Agric. & Environmental Sciences, and National Crops Resources Research Institute, Namulonge.

Funds: Grant of US\$ 60,000.00 from RUFORUM

6. **Project to study wild food plants and secondary crops consumed among Households surrounding forests/woodlands and management practices on farm conservation in Nakasongola and Amuria districts funded by Makerere – Carnegie Institutional Development Program under the Theme: Food, nutrition and Value Addition**
7. **Ethnobotanical, Bioassay and active compounds isolation from medicinal plants used for the treatment of tuberculosis in Lake Victoria Basin, Phase III: Isolation, Characterization of pure compounds and formulation of active crude extracts from Medicinal plants used by traditional practitioners in Mukono District; funded by VICRES**
8. Understanding the Persistence of Foot-and-Mouth Disease in Uganda: the case of western Uganda (RUFORUM) *(Co-applicant, ongoing)* _ **between CAES and Zoology**
9. Next generation methods to preserve farm animal biodiversity by optimizing present and future breeding options. (EU-FP7). *(Co-applicant, on-going)* – Makerere University and European Universities webpage: <http://nextgen.epfl.ch/>
10. A landscape population genomics approach for conservation of the domestic pig and control of African swine fever in Uganda (Makerere- Sida post doctoral).

11. Fisheries and aquaculture adaptation and conservation strategies in Uganda's changing climate (RUFORUM).
12. Linnaeus-Palme Exchange Programme between Makerere University and the Department of Biomedical Sciences and Veterinary Public Health (BVF) at the Swedish University of Agricultural Sciences (SLU).
13. Regional Research Project 'Project Title: Water quality and its impact on fish abundance and socio-economic well being of the riparian communities of Lake Victoria'. VicRes Project, SIDA/Sarec. 2007 – Present (On-going).
14. Expanding the rational and biological control of invasive *Liriomyza* leafminer flies in major horticultural production systems of East Africa. Collaborative research with the International Centre of Insect Physiology and Ecology (*icipe*), Nairobi. Financed by the GIZ, 2011 – 2013.
15. Gaining Insight into factors influencing fruitfly infestations in mangoes under implementation from 2010 to 2013 with Kawanda Agricultural Research Institute funded by the Millennium Science Initiative.
16. Mobilizing vital taxonomic information to support human well-being and ecosystem health in East Africa'. In partnership with EAFRINET and BioNet International ; 2009 to 2011. Fully illustrated interactive identification keys and factsheets for key pests, pollinators and Invasive alien Species (IAS) in East Africa have been developed and are available online.
17. Linking Ecosystem services to poverty using a justice framework, 2010 to 2013. The project is a collaboration with the University of East Anglia, UK and funded by the Natural Environment Research Council and DfID, UK.
18. FRIEND / Nile Ecological hydrology Project, UNESCO Cairo Office Project (Collaborating countries of Nile basin: Uganda, Kenya, Tanzania, Ethiopia, Sudan, Egypt and Belgium Counterpart, Coordinated by Uganda Ministry of water and Environment). 2008 – 2011. Project facilitates two researchers from each country to collect relevant data on the Nile Basin.
19. TransMalariaBloc research was continued, as part of a multinational team searching for ways to block malaria transmission by mosquito.
20. Reducing Risks and Vulnerabilities to Zoonotic Diseases in the Cattle Corridor (Supports 4 PhD and 4 MSc. students).
Investigator: Dr. S. Mugisha
Duration: 2010 – 2014
Funder: IDRC
Project Funds: US\$ 400,000
21. Malaria and Agriculture – Uganda Chapter (Collaboration with Kenya, Rwanda, Tanzania (Supports 2 MSc. students).
Investigator: Dr. S. Mugisha
Duration: 2011 – 2013
Funder: IDRC
Project Funds: US\$ 110,000

22. Strengthening the Governance of Aquatic Resources on Lake Victoria (Collaboration with Zambia, Cambodia)

Investigator: Dr. S. Mugisha

Duration: 2011 – 2013

Funder: Federal Republic of Germany (World Fish)

Project Funds: US\$ 50,000

School of Physical Sciences

Department of Geology and Petroleum Studies

23. **EnPe Project: Geosciences_ Collaboration Makerere University-University of Bergen(UiB).**

The objective of the project is to develop an MSc programme in Petroleum Geosciences at Makerere University in collaboration with the UiB. In addition to the MSc. Programme the project will also support: 5 Ugandan students per year for tuition, monthly stipend, fieldwork and thesis production; Norwegian expatriate staff to teach at Makerere University; Makerere University academic and technical staff for short Petroleum Geosciences courses in Norway; Workshop and laboratory equipment; Field vehicle; Advanced MSc Seismic Laboratory to include refurbishment, hardware and software; Textbooks and Journals and other collaborative support services such as workshops, conferences, staff fieldwork.

Duration: The programme runs from 1st January, 2011 until 31st December 2013 with chances for renewal but to include some regional Universities. **Project funds:** 6,000,000 NOK (~ USD 1million)

Funder: Government of Norway through NORAD

24. The Riftlink Collaborative research with several German Universities is continuing till June 2013.

There are chances for renewal albeit with slight modifications in the objectives.

25. Coltan Environmental Management: The project is looking at sustainable restitution/recultivation of artisanal tantalum/tin mining wastelands in central Africa. It involves former artisanal mines in Uganda, Rwanda and Burundi.

Funder: Volkswagenstiftung, Germany.

Department of Physics

26. Zinc Oxide materials for Photovoltaic Applications

Principal Investigator: Professor Oti

Funds: USD 75,000

Duration: 2011-2013

27. Study of Thin Films for Energy applications

Principal Investigator: Professor Oti

Funds: 375,000 SEK

Collaborators: International programme in Physical Sciences, Sweden

Duration: 2011-2013

28. NUFU Small Scale Concentrating Solar Energy Systems. project shared among; Norway, Uganda, Ethiopia and Mozambique. Project has been able to train two Ph.D students and one M.Sc. student.

Principal Investigator: Prof. E.J.K.B. Banda

Funds: 6Million NOK

Duration: 2006 - 2011

Department of Mathematics

29. East African Universities Mathematics programme (EAUMP), (2008-2020) sponsored by International Science Programme (ISP) –Sweden. This involves five countries i.e Uganda, Kenya, Tanzania, Rwanda and Zambia. (3 PhD and 2 MSc. Students)

30. Finland CIMO Student Exchange Programme

31. Makerere University – UVRI Research Training Programme in Infection and Immunity with the University of Cambridge

32. Makerere University - Nelson Mandela Metropolitan University Research and Teaching Collaboration (1 PhD student)

Department of Chemistry

33. Multi-disciplinary University Traditional Health Initiative (MUTHI): Building Sustainable Research Capacity on Plants for Better Public Health in Africa

Main Objective: To create sustainable research capacity and research networks between the participants in Africa and collaborating neighbouring institutions in particular, as well as with the European participants, in order to obtain improved health in Africa

Funder: European Commission

Amount of Grant: Euro 1,991,983. Duration 4 years

Principal investigator: Norway :Prof. Berit Smestad Paulsen, University of Oslo

Co-Investigator: Uganda: Prof. Bernard T. Kiremire, Makerere University

Co-Investigator: Mali : Prof.Drissa Diallo,University of Bamako
Co-Investigator: Norway :Prof. Øyvind Andersen, University of Bergen
Co-Investigator: South Africa: Prof Quinton Johnson,University of Western Cape
Co-Investigator: South Africa: Prof Andrew Marston, University of Free State
Co-Investigator: Netherlands : Prof Ria Reiss , University of Amsterdam Co-Investigator: UK:
Prof Gerry Bodeker , University of Oxford

Projects not specific to School

34. SIDA Research Project – Enhancing Capacity in Basic Science Research and training for sustainable development. The project has 5 sub-projects:

- a) Ethnobotany: coordinated by Dr. M. Kamatenesi-Mugisha
- b) Mathematical modelling: coordinated by Dr. J. Mango
- c) Pesticides: coordinated by Prof. B. Kiremire
- d) Environmental restoration: coordinated by Prof. H. Oryem Origa
- e) Green Chemistry: coordinated by Prof. Henry Ssekaalo

Project funds: 7.2 million SEK (~ USD 1.2million)

Funder: Government of Sweden (bilateral agreement) through SIDA

Duration: 2010 – 2014

2.3 Publications, Workshops and Seminars

As a result of the research activities in the College, academic staff have published several papers in various peer reviewed journals in 2011. In addition, staff in the College have attended workshops and conferences as well as serving in various capacities both in the country and outside. The departments also undertake various collaborations for advancement of knowledge and further training.

Department of Mathematics

Publications

Nabasirye, M., **Mugisha J.Y.T.** Tibayungwa, F. and Kyarisima, C.C. (2011). Optimization of input in animal production: A linear programming approach to the ration formulation problem. *International Research Journal of Agric & Soil Sciences*, 1(7): 221 – 226.

Nanyonga, B., **Mugisha J.Y.T.** and Luboobi, L.S. (2011). Modelling the role of HIV- positive immigrants and dual protection in a co-infection of malaria and HIV-AIDS. *Applied Mathematical Sciences*, 5(59): 2919 – 2942.

Lawi G.O., **Mugisha J.Y.T.** and Omolo-Ongati, N. (2011). Mathematical Model for Malaria and Meningitis Co-infection among Children. *Applied Mathematical Sciences*, 5(47):2337 – 2359.

Tibayungwa, F., **Mugisha J.Y.T.**, Nabasirye, M. (2011). Modelling the effect of supplementing elephant grass with lablab and desmodium on weight gain of dairy heifers under stall-feeding system. *Africa Journal of Agric. Research*, 6(14): 3232-3239.

Tibayungwa, F., **Mugisha J.Y.T.**, Nabasirye, M. (2011). Qualitative analysis of livestock-forage system in the stall-feeding smallholder dairy cattle system. *Africa Journal of Agric. Research*, 6(4): 834-843.

Kibona I., Mahera W., Makinde D. and **Mango J.** A deterministic model of HIV/AIDS with vertical transmission in the presence of infected immigrants. *International Journal of Physical Sciences*, vol.6 (23), pp.5383-5398, October 2011.

Mango J.M., Ssembatya V.A and Kayanja A. (2011). Containing ill-conditioning in simulation of elliptic partial differential equations using meshless methods (using points in concentric circles). *ICASTOR Journal of Mathematical Sciences*, Vol. 5 No.2, pp 285-298.

Workshops / Conferences attended

Dr. J. M. Mango

1. Chaired local organizing Committee and attended African Gifted Foundation (AGF), 5th -12th January 2011.
2. Participated in the ISP 50th Anniversary celebrations in the University of Uppsala-Sweden 24th – 29th September 2011.
3. Attended SAMSA Conference in Zambia-Livingstone and presented a paper on three dimensional hydrodynamic modeling of Lake Victoria from 27th November-3rd December 2011
4. Attended SIDA ISP Bilateral Meeting, Uppsala University, Sweden, 11th to 16th June 2011.
5. Attended East African Universities Program (EAUMP) Meeting, University of Nairobi, Kenya, from 26th to 29th June 2011.
6. Attended 14th NAPRECA Symposium, University of Nairobi, Kenya, from 8th to 12th August 2011.

Prof. L.S. Luboobi

1. Attended SAMSA Conference, Khartoum, Sudan, from 13th to 16th March 2011.
2. Attended RUFORUM AGM, Lilongwe, Malawi from 29th to 30th August 2011.

Dr. J. Kasozi

1. Attended Conference and MARM roundtable and Kenyatta University International Maths Conference, Nairobi, Kenya from 7th to 11th June 2011.
2. Attended International Science Programme (ISP) Research Meeting, Uppsala University, Sweden from 11th to 16th June 2011.
3. Attended EAUMP Coordinators' Meeting, University of Dar es Salaam, Tanzania 12th to 14th August 2011.
4. Attended EAUMP Coordinators' Meeting, University of Dar es Salaam, Tanzania 26th to 30th August 2011.

Department of Physics

Workshops / Conferences attended:

Dr. Florence D'ujanga

Attended Conference on Women in Physics by IUPAP in Pretoria South Africa 5th April to 9th April 2011.

Attended Consultative Meeting on sustainable development, Pretoria South Africa, 29th May 2011 to 2nd June 2011 – ICSU – UNESCO, RIO+20 Regional Workshop for Africa

Attended Promotion of Women in Science by ICSU (International Council for Science) and UNESCO, 28th June to 1st July 2011 in Johannesburg, South Africa.

Dr. Akisophel Kisolo

Attended Regional IAEA Meeting for Regulation of Radiation sources in Arusha Tanzania, 28th March to 3rd April

Attended IAEA Training Course on Radiation detectors in Arusha Tanzania, 26th September to 1st October 2011.

Prof. Yusto Kaahwa

Attended Materials Science and Solar Energy Network for Eastern and Southern Africa (MSSEESA) Coordinating Board Meeting in Dar es Salaam Tanzania, 24th June to 26th June 2011.

Dr. Willy Okullo

Attended Continuation of Research Meeting at NMMU, 12th August to 26th August 2011.

Attended African Laser Centre (ALC) workshop, Stellenbosch, South Africa , 9th November 2011 to 13th November 2011.

Dr. Ireeta Tumps

Attended African Laser Centre (ALC) workshop, Stellenbosch, South Africa, 9th November 2011 to 13th November 2011.

Prof. T. Otit

Participated in OSIENALA Board Meeting, Kisumu Kenya, 13th to 15th October 2011.

Attended AGM and Member Meeting for ALC (African Laser Centre), Stellenbosch South Africa, 11th November to 13th November 2011.

Mr. Denis Okello

Attended ISES 2011 World Congress 28th August to 2nd September 2011, Kassel Germany.

Attended Annual NUFU workshop on Small Scale Concentrating Solar Energy Systems, Kassel, Germany, 3rd to 4th September 2011.

Mr. Nyeinga Karidewa

Attended ISES World 2011 Congress 28th August to 2nd September 2011, Kassel Germany

Prof. Eldad J.K.B. Banda

Attended ISES World 2011 Congress 28th August to 2nd September 2011, Kassel Germany

Ms. Gertrude Ayugi

Attended the 4th International Scientific Research Conference of the National University of Rwanda, Butare 16-18th November, 2011

Publications

Vitalis Musara, **Winston T. Ireeta**, Samuel K. Fosuhene, Lorinda Wu, and A.W.R. Leitch, "Tuneable polarization mode dispersion emulator: Fixed polarization maintaining fibre sections and rotatable polarization orientations," *Optik: International Journal of Light and Electron Optics* (In Press).

Vitalis Musara, **Winston T. Ireeta**, L. Wu, and A.W.R. Leitch, "The General Interferometry Technique: Interferogram Analysis in The Presence of a High Polarization Mode Dispersion Segment," Dr. W. T. Ireeta is the corresponding author. IEEE AFRICON 2011. Published in the Conference Proceedings, ISBN: 978-1-61284-991-1 and ISSN: 2153-0025. Print ISBN: 978-1-61284-992-8 and Digital Object Identifier:10.1109/AFRCON.2011.6071972

Vitalis Musara, **Winston T. Ireeta**, Lorinda Wu, and A.W.R. Leitch, "The impact of a High Polarization Mode Dispersion Section on the Output State of Polarization of Propagating Light," IEEE AFRICON 2011. Published in the Conference Proceedings, ISBN: 978-1-61284-991-1 and ISSN: 2153-0025. Print ISBN:978-1-61284-992-8 and Digital Object Identifier:10.1109/AFRCON.2011.6072013

Vitalis Musara, Samuel K. Fosuhene, **Winston T. Ireeta**, Lorinda Wu, and Andrew Leitch(2011). "Emulator with inverse trend in first-order and second-order polarization mode dispersion," Optics Communications, vol. 284, issue 12, pp. 2690-2694, June 2011.

Winston T. Ireeta, V. Musara, L. Wu and A.W.R. Leitch, "SOP and PMD monitoring on deployed aerial optical fibres," Optik: International Journal of Light and Electron Optics (In Press).

Denis Okello, C.W.Foong ,Ole J.Nydal, and **E.J.K.Banda**, An Experimental Investigation on the Use of the Mixture of Phase Change Materials and Rock Particles for High Temperature($\approx 350^{\circ}\text{C}$) Heat Storage: Proceedings, ISES 2011 World Congress ,Kassel ,Germany.

D.Okello, **J.Mubiru** and **E.J.K.Banda**, Availability of direct Solar radiation in Uganda:Proceedings ISES 2011 World Congress, Kassel Germany

Nyeinga Karidewa, O.J.Nydal, J.Lovseth and **E.J.K.Banda**,Ray Tracer for Analysis of Solar Concentrating Systems:Proceedings of ISES 2011 World Congress, Kassel Germany.

Svein R. E, **Nicolausi Ssebiyonga**, Øyvind Frette, Børge Hamre, Jan Aure Tore Strohmeier, Dynamics of phytoplankton distribution and photosynthetic capacity in a western Norwegian fjord during coastal upwelling: Effects on optical properties (2011). Journal of Estuarine, Coastal and Shelf Science, vol. 97: pp 91-103.

G.Ayugi, **E.J.K.Banda** and **F.M.D'ujanga**,Local insulating materials for Thermal Energy Storage: Rwanda Journal Series C 23,21-29(2011)

J.Mubiru and **E.J.K.Banda**,Monthly areage daily global solar irradiation maps for Uganda:a location in the Equatorial region:Renewable Energy Journal 41,412-415(2011)

Department of Geology and Petroleum Studies

Conference and Workshops attended:

Dr. Nakimera Immaculate

Attended and presented a paper at INQUA Congress, Bern, Switzerland from 21st to 27th July 2011.
Attended a workshop in Providence, USA from 13th to 18th November.

Publications

J.V. Tiberindwa, E. Barifaijo, S. Foley and K. Link (2011). Patterns and Origin of Igneous Activity around the Tanzania Craton. *Journal of African Earth Sciences*, Vol.62,pp.1-18.

Department of Chemistry

Workshops / Conferences attended

Dr. R. Byamukama

1. The 14th Symposium of the Natural Product Research Network for Eastern and Central Africa (NAPRECA), 8th – 12th August 2011, International Centre for Insect Physiology and Ecology (ICIPE), Kasarani, Nairobi, Kenya.
2. The International Organisation for chemical Sciences in Development (IOCD) Working Group on Plant Chemistry Symposium, 12th – 15th January 2011, University of the Western Cape, Cape Town, South Africa.
3. The NAPRECA Uganda Dissemination Workshop, 23rd June, Makerere University, JICA Building, Room 201 – 202.
4. Multi-Disciplinary University Traditional Health Initiative (MUTHI) Bioassay, IP and Indigenous Knowledge Workshop 25th – 30th November 2011, Bamako, Mali.
5. MUTHI Medical Anthropology/Ethnobotany Workshop, 12th – 16th December 2011, Economic Policy Research Centre (EPRC) Conference Room, Makerere University, Kampala – Uganda.
6. The 2nd Tanzania Chemical Society (TCS) International Conference 5th – 7th October 2011, Ocean Giraffe Hotel, Dar es salaam, Tanzania.

Ms. A.M. Mohammed

1. Attended a RISE-AFNNET; REGIONAL WORKSHOP ON NATURAL PRODUCTS, 2nd April, 2011: Imperial Royale Hotel, Kampala, Uganda.
2. The NAPRECA Uganda Dissemination Workshop, 23rd June, Makerere University, JICA Building, Room 201 – 202.
3. Multi-Disciplinary University Traditional Health Initiative (MUTHI) Bioassay, Intellectual Property and Indigenous Knowledge Workshop 25th – 30th November 2011, Bamako, Mali.
4. MUTHI Medical Anthropology/Ethnobotany Workshop, 12th – 16th December 2011, Economic Policy Research Centre (EPRC) Conference Room, Makerere University, Kampala – Uganda.

Publications

Irene Skaar, Monica Jordheim, **Robert Byamukama**, Angella Mbabazi, Bernard Kiremire, Sileshi Wubshet, Øyvind M. Andersen (2011). New Anthocyanidin and Anthocyanin Pigments from Blue Plumbago. *Journal of Agricultural and Food Chemistry*. Accepted 22nd December 2011.

Robert Byamukama, George Ogwang, Monica Jordheim, Øyvind M. Andersen and **Bernard Kiremire** (2011). Anthocyanidin 3-galactosides from flowers of *Abrus canescens* Bak. *African Journal of Applied and Pure Chemistry* 5(10), 356 – 360.

Robert Byamukama, Monica Jordheim, **Bernard Kiremire** and Øyvind M. Andersen (2011). Primitive Anthocyanin from flowers of three Hemiparasitic African Mistletoes. *Archives of Applied Research Journal*, 3(3), pp1 – 5.

Jane Namukobe, John M. Kasenene, **Bernard T. Kiremire**, **Robert Byamukama**, **Maud Kamatenesi-Mugisha**, Sabrina Krief, Vincent Dumontet and John D. Kabasa (2011). Traditional plants used for medicinal purposes by local communities around the northern sector of Kibale National Park, Uganda. *Journal of Ethnopharmacology*, 136, pp 236 – 245, doi:10.1016/j.jep.2011.04.044

George Mulongo, **Jolocam Mbabazi** and Song Hak-Chol (July, 2011). Synthesis and Characterisation of Silver Nanoparticles using High Electrical Charge Density and High Viscosity Organic Polymer. *Research Journal of Chemical Sciences*, 1(4), 18 -21.

G. Mulongo, **J. Mbabazi**, B. Odongkara B, H. Twinomuhwezi and G.B. Mpango (June, 2011). New Biologically Active Compounds from 1,3-Diketons. *Research Journal of Chemical Sciences*, 1(3).

SCHOOL OF BIOSCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

Botany

Workshops and Conferences attended

Prof. Bukenya-Ziraba, R

1. Attended a RISE-AFNNET; REGIONAL WORKSHOP ON NATURAL PRODUCTS, 2nd, April, 2011: Imperial Royale Hotel, Kampala, Uganda.

Prof. Oryem-Origa, H

1. Regional Workshop for Curriculum Development for the Pan African University Institute in Nairobi, Kenya from 24- 26 May, 2011 organized jointly by the African Union and Jomo Kenyatta University of Agriculture and Technology. It was held at the Kenya School of Monetary Studies, Nairobi.

Assoc. Prof. E. K. Kakudidi

1. Attended a RISE-AFNNET; REGIONAL WORKSHOP ON NATURAL PRODUCTS, 2nd, April, 2011: Imperial Royale Hotel, Kampala, Uganda.
2. VICRES Biannual Conference at Speke Resort Munyonyo, Uganda from 9 – 13 October 2011

Mr. Godwin Anywar:

1. Attended a RISE-AFNNET; REGIONAL WORKSHOP ON NATURAL PRODUCTS, 2nd, April, 2011: Imperial Royale Hotel, Kampala, Uganda.
2. Participated in the Regional Initiative in Science and Education (RISE) Annual meeting: held in Kampala, Uganda: Friday 14th October, 2011 under the Theme: Integration of Science and Technology Networks in national and regional development in conjunction with the Carnegie corporation and the Science initiative Group (SIG)
3. Attended a Multi-Disciplinary University Traditional Health Initiative (MUTHI) Clinical Trials workshop at The University of Western Cape in South Africa in conjunction with the South African Herbal Medicine Institute
4. Attended a training workshop on Ethnobotany and Medical Anthropology in Kampala organized by MUTHI and the University of Amsterdam
5. Completed a Post Graduate Diploma in Project Planning and Management from the MUBS Graduate Research Centre.
6. Underwent week training in South Africa's University of Western Cape on how to conduct clinical trials on herbal medicine, in partnership with the South African Herbal Science and Medicine Institute. This part of the Multidisciplinary University Traditional Health Initiative (MUTHI) project. The training was conducted from 31st October to 4th November 2011.
7. Participated in a follow up workshop on the Multidisciplinary University Traditional Health Initiative (MUTHI): Research in Medical Anthropology and Ethnobotany Workshop that was hosted at Makerere University main campus, Kampala in conjunction with the University of Amsterdam from 12th to 16th December 2011

Arthur K. Tugume:

1. Training in PhD supervision and graduate mentorship - a course for Makerere University members of academic staff (organized by the Makerere University graduate school) to enhance skills in graduate supervision and mentorship at Makerere University; February 2011; venue: Hotel Africana.
2. Training in Agricultural Research and development (ARD) program, supported by Africa Lead East Africa, a USAID funded capacity building program for Africa. Limpopo District, South Africa. December 11-16, 2011.

Special Workshops Organized

Makerere University, Dept of Biological Sciences (Botany Unit) in conjunction with Botanic Gardens Conservation International (BGCI) organized a workshop on 25th and 26th August 2011 at Makerere

University Guest House, with the overall objective of bringing together agencies involved in **Medicinal Plant Conservation in Uganda to Plan Priority Action for Selected Medicinal Plant Species and their Habitats**.

Publications

Mbanzibwa DR, Tian YP, **Tugume A.K**, Patil BL, Yadav JS, Bagewadi B, Abarshi MM, Alicai T, Changadeya W, Mkumbira J, Muli MB, Mukasa SB, Tairo F, Baguma Y, Kyamanywa S, Kullaya A, Maruthi MN, Fauquet CM, Valkonen JPT (2011). Evolution of cassava brown streak disease-associated viruses. *Journal of General Virology* 92:974-987.

K.Sekabira, **H. Oryem-Origa**, T.A. Basamba, **G. Mutumba** and **E. Kakudidi** (2011) Application Algae In Biomonitoring And Phytoextraction Of heavy metal contamination in urban stream water. *International Journal of Environtal Sciences Tech.* 8 (1) 115-128. Winter 2011, ISSN : 1735-1472.

Maud M. Kamatenesi, Annabel Acipa and **Hannington Oryem-Origa**. (2011). Medicinal Plants of Otwal and Ngai Sub-counties in Oyam District, Northern Uganda. *Journal of Ethnobiology and Ethnomedicine*.

K.Sekabira, **H. Oryem-Origa**, **G. Mutumba**, **E. Kakudidi** and T.A. Basamba, (2011). Heavy Metal phytoremediation by *Commelina benghalensis* (L) and *Cynodon dactylon* (L) growing in urban stream sediments. *International Journal of Plant Physiology and Biochemistry* Vol. 3 (8) pp133-142.

Matthew. T. Mwanja, Vincent Muwanika, **Sylvester Nyakaana**, Charles Masembe, Dismas Mbabazi, Justus Rutasire and Wilson. W. Mwanja (2011) Population morphological variation of the Nile perch (*Lates niloticus*, L. 1758), of East African Lakes and their associated waters. *African Journal of Environmental Science and Technology* 5(10) DOI: 10.5897/AJEST11.xxx

Allen Nalugwa, Aslak Jørgensen, **Silvester Nyakaana** and Thomas K. Kristensen (2011) Genetic variation within and between populations of hermaphroditic *Bulinus truncatus* tetraploid freshwater snails of the Albertine Rift, East Africa. *Hydrobiologia*, DOI 10.1007/s10750-011-0749-6

Aslak Jørgensen, Henry Madsen, Allen Nalugwa, **Silvester Nyakaana**, David Rollinson, J. Russell Stothard, Thomas K. Kristensen (2011) A molecular phylogenetic analysis of *Bulinus* (Gastropoda: Planorbidae) with conserved nuclear genes. *Zoologica Scripta*, 40(2): 126-136

Akwatulira, F., Gwali, S., Okullo J.B., **Ssegawa, P.**, Tumwebaze, S.B., Mbwambo, J.R., and Muchugi, A. (2011). Influence of rooting media and indole-3-butyric acid (IBA) concentration on rooting and shoot formation of *Warburgia ugandensis* stem cuttings. *African Journal of Plant Science* 5(8): 421-429.

John Wasswa Mulumba and **Esezah Kakudidi**. (2011). Intraspecific Delimitation of *Acacia senegal* (Fabaceae) in Uganda. *American Journal of Plant Sciences* 2: 345 – 353.

Clark CA, Davis JA, Abad JA, Cuellar W, Fuentes S, Kreuze JF, Gibson RW, Mukasa SB, **Tugume AK**, Tairo F, Valkonen JPT (2011) Sweetpotato Viruses: 15 Years of Progress on Understanding and Managing Complex Diseases. *Plant Disease*, In press. DOI: 10.1094/PDIS-07-11-0550

Joyce Adokorach, John Bosco Lomoris Okullo, Daniel Waiswa, Winnie Alum, John Wasswa Mulumba, **Hannington Oryem-Origa** and Joseph Obua. Ethno-uses and conservation of shea parklands by internally displaced persons in Northern Uganda. *African Journal of Ecology*

Zoology

Special Workshops Organized

Short course on Sustainable Fish Farming, with financial and logistical support from ICEIDA, UNU-FTP, Holar University College, Aquaculture Development Centre, NARO-Kajjansi and the Chinese Government. September 2011

Workshops/ Conferences attended:

Dr. Anne Akol

1. Attended Inception workshop for ESPA-JEM Project, January 2011.
2. Attended UVIMA Project Activity from 11th to 16th April 2011.
3. Attended Workshop of the JEM Project in Orissa State, India from 28th October to 5th November 2011.

Prof. J.B. Kaddu

4. Participated in the 17th Conference of the Parties (COP17) to the “United Nations Framework Convention on Climate Change” (UNFCCC) in the capacity of Team Leader of the Adaptation Thematic Group of the Uganda delegation, from November 28 to December 09 2011.

Dr. Fredrick J. Muyodi

1. VICRES Bi-annual Conference at Speke Resort Munyonyo, Uganda from 9 – 13 October 2011
2. National Consultative workshop on the development of data sharing protocol for Lake Victoria Basin Commission, Kampala, Uganda, 14th February, 2012.
3. Department of Biology Lake Victoria Environmental Management Project Phase II (LVEMP II) Consultative Workshop: Establishing Framework for Identifying Demand-Driven Research Topics to Be Undertaken by Postgraduate Students, 09 Thursday 2012 at Ridah Hotel (Seeta), Uganda.

Publications

Akol A.M., Chidege M.Y., Talwana H.A.L. & Mauremootoo J.R. (May 2011) Invertebrate pests of maize in East Africa (Kenya, Uganda and Tanzania), Lucid v. 3.5 key and fact sheets. Makerere University, TPRI, BioNET-EAFRINET, CABI & The University of Queensland (September 2011) keys.lucidcentral.org/keys/v3/EAFRINET.

Matthew. T. Mwanja, Vincent Muwanika, **Sylvester Nyakaana**, **Charles Masembe**, Dismas Mbabazi, Justus Rutasire and Wilson. W. Mwanja (2011). Population morphological variation of the Nile perch (*Lates niloticus*, L. 1758), of East African Lakes and their associated waters. *African Journal of Environmental Science and Technology* Vol. 5(10), pp.xxx-xxx, October 2011. Available online at

L. Kasambula, G. J. Belsham, H. R. Siegismund, V. B. Muwanika, A. R. Ademun-Okurut and C. **Masembe**. Serotype Identification and VP1 Coding Sequence Analysis of Foot-and-Mouth Disease Virus from Outbreaks in Eastern And Northern Uganda in 2008/9. Accepted: *Transboundary and Emerging Diseases*.

Angwech H., **Kaddu J. B.** and Nyeko J H P (2011). Tick-borne parasites of domestic ruminants in Gulu District, Uganda: Prevalence varied with the Intensity of management. *Veterinary Research* 4(2):28 – 31.

Muyodi, F.J., F.L. Mwanuzi and Kapiyo, R. (2011). Environmental Quality and Fish Communities in Selected Catchments of Lake Victoria. *The Open Environmental Engineering Journal*, 4, 54-65.

Important Developments

Professor J.B. Kaddu wrote a new Course “Parasitology for sports Science” to be taught in the department of Biological Sciences. The course is designed specifically for students of Sports Science, taking into consideration their varied pre-university background, and also the post-university expected field of specialization.

Department of Biochemistry and Sports Science

Workshops/Conferences Attended

Dr. J. Kyambadde

1. Attended BioInnovate launch and planning meeting, Addis Ababa, Ethiopia from 15th to 20th March 2011.
2. Attended BioInnovate Programme Planning Meeting Nairobi, Kenya 5th April.
3. Attended BioInnovate Planning Meeting in Addis Ababa, Ethiopia from 10th to 13th November 2011.

Dr. Alibu

1. Attended a Planning Meeting for Gates Foundation research project from 28th to 31st March 2011.
2. Attended Afrique One Postdoc inception workshop, Dakar, Senegal from 17th to 21st April 2011.
3. Attended Afrique One board meeting, Dakar Senegal from 16th to 24th October 2011.

Publications

Balyeidhusa A.S., Kironde F.A, Enyaru J.C. (2011). Apparent lack of a domestic animal reservoir in Gambiense sleeping sickness in northwest Uganda. *Vet Parasitol*, 2011 Dec 19, [Epub ahead of print].

Muturi C.N., Ouma J.O., Malele I.I., Ngure R.M., Rutto J.J., Mithofer K.M., **Enyaru J.**, Masiga D.K. *PloS One*. 2011 Feb 28;6(2):el 7284.

Hainard A., Tiberti N., Robin X., Ngoyi D.M., Matovu E., **Enyaru J.C.**, Muller M., Turck N., Ndungu J.M., Lejon V., Sanchez J.C. (2011). Matrix metalloproteinase-9 and intercellular adhesion molecule 1

are powerful staging markers for human African trypanosomiasis. *Trop Med Int Health*. 2011 Jan; 16(1):119-26. doi: 10.1111/j. 1365-3165.2010.0264.x Epub 2010 Oct 19.

Kasozi DM, Gromer S, Adler H, Zocher K, Rahlfs S, Wittlin S, Fritz-Wolf K, Schirmer RH, Becker K (2011) The bacterial redox signaller pyocyanin as an anti-plasmodial agent: Comparisons with its thioanalog methylene blue. *Redox Rep*. 16(4):154-65.

Kasozi DM, Rahlfs S, Becker K (2011) Current aspects of endoperoxides in antiparasitic chemotherapy. In: *Drug discovery against apicomplexan parasites* (Becker K, vol. ed., Selzer P, series ed.) Wiley-Blackwell, Weinheim pp115-136

Peter Meissner, Heike Adler, **Dennis Kasozi**, Karin Fritz-Wolf, R. Heiner Schirmer (2011). The Reducing Milieu of Parasitized Cells as a Target of Antimalarial Agents: Methylene Blue as an Ethical Drug. In: *Drug discovery against apicomplexan parasites* (Becker K, vol. ed., Selzer P, series ed.) Wiley-Blackwell, Weinheim pp 413-430

2.4 Partnerships and Networking

The College for purposes of furthering knowledge undertakes research in various areas under the individual departments. The projects are mainly funded by development partners or as collaborations with universities and research institutions in other countries. The research is jointly handled by staff and students at graduate (Masters and PhD) level.

3. SUPPORT FUNCTIONS

3.1 Human resources

The College human resource base comprises of Academic, Technical, administrative and support staff. With the launch of the collegiate system at Makerere University, a human resource office has been created for the College to ensure efficiency in handling of labour issues. The details of the staffing levels are shown in the *appendix*. The establishment against the available staff is all detailed.

3.2 Library services

The newly formed College of Natural Science library has a collection of approximately 25,000 information materials constituting of monographs, journals, serials and archival materials. Before the collegiate system, each of the departments in the College had its own library or book-bank where departmental – specific scientific information has been kept for only its staff and students, and usually manned by technicians. With the advent of a collegiate system and deployment of a professional librarian, all these libraries have been merged to compose one college library. Scientific information materials in the College of Natural Science remains unprocessed, hence an information gap to the numerous scientific research.

3.3 Information Communication Technology

In a period of transformation, information and communication technology plays an important role in the College services to students and staff. The College has 3 IT labs reserved for use by students i.e. the E-learning lab, in the Mathematics and Physics departments. The labs have a total of 150 computers

between them; however some of the computers have been vandalized or stolen due to the rampant thefts that have dogged the College throughout this year. E-learning forms an integral part of teaching and learning at the College particularly through the MUELE platform. However, the ratio of the available computers to the number of students is still unfavourable standing at 1:8.

4. CONCLUSION AND WAYFORWARD

In Conclusion, 2011 was a fruitful year for the College in terms of publications research and innovations at the College of Natural Sciences. The achievements were realized despite the challenges of funding, staffing and new changes as a result of the conversion to the collegiate system. In the year 2012 the College plans to work on recruitment of staff to match establishment with the staff on ground. Plans are also in place to increase partnerships so as to increase its research initiatives. A new graduate programme in Petroleum Geosciences is slated to start in partnership with the University of Bergen and supported by NORAD.

APPENDIX

STAFFING DETAILS IN THE COLLEGE FOR THE YEAR 2011

Principal's Office

No.	Name	Designation
1	Prof. J.Y.T. Mugisha	Principal
2	Prof. H. Oryem-Origa	Deputy Principal
3	Dr. Maud Kamatenesi	Dean, School of Biosciences
4	Dr. John M. Mango	Dean, School of Physical Sciences
5	Ms. Agnes Kemigisha	College Administrator
6	Mr. T. Otim	College Registrar
7	Ms. Josephine Ataro	Asst. College Registrar
8	Ms. Grace Apili	Asst. College Registrar
9	Ms. S. Nakibuuka	College Procurement Officer
10	Ms. R. Nalubega	College Librarian
11	Ms. Z. Ssali	College Communication Officer
12	Ms. M. Kasemiire	College Web Administrator
13	Mr. A. Malagala	College Bursar
14	Mr. J. Senyonga	Computer Technician
15	Mr. E. Habyarimaana	Technician II
16	Mr. Y.Nandala	Custodian
17	Ms. M. Kairamibwa	Personal Secretary
18	Ms. I.Namatovu	Secretary
19	Ms. J. Kakongoro	Sen. Copy Typist
20	Ms. J. Namigadde	Copy Typist

21	Ms. M. Ndimala	Accounts Clerk
22	Mr. J.M. Sserwada	Workshop Assistant
23	Mr. F. Mbuuse	Driver
24	Mr. C. Mukasa	Messenger
25	Mr. C. Kiyingi	Machine Operator
26	Mr. R. Mfitumukiza	Cleaner
27	Mr. C. Munyamasoko	Cleaner
28	Ms. A. Nalyazi	Cleaner
29	Ms. M. Namwase	Cleaner
30	Ms. R.Nakaggwa	Sanitary Cleaner
31	Ms. R. Amado	Sanitary Cleaner
32	Ms. A. Nakintu	Sanitary Cleaner

Department of Biochemistry and Sports Science

Biochemistry

No.	Name	Designation	Education	Status
1	Prof. J.C.K.Enyaru	Professor	PhD	Contract
2	Dr. F.Kironde	Assoc. Professor	PhD	Contract
3	Dr. J. Kyambadde	Senior Lecturer / Head of Department	PhD	Permanent
4	Dr. J. Hawumba	Lecturer	PhD	Permanent
5	Dr. A. Nandutu Masawi	Lecturer	PhD	Permanent
6	Dr. D. Isabirye	Lecturer	PhD	Permanent
7	Dr. P. Vuzi	Lecturer	PhD	Permanent
8	Dr. V.P. Alibu	Lecturer	PhD	Permanent
9	Ms. R. Baingana	Lecturer	MSc.	Permanent
10	Mr. S.W.Wamutu	Assistant Lecturer	MSc.	Permanent
11	Dr. A.S.P. Balyedhusa	Assistant Lecturer	PhD	Permanent
12	Mr. D. Kasozi Matovu	Assistant Lecturer	MSc.	Permanent
13	Mr. J. Isanga	Assistant Lecturer	MSc.	Probation
14	Mr. R. Gumisiriza	Teaching Assistant	MSc.	Permanent
15	Mr. J. Omara	Teaching Assistant	BSc.	Contract
16	Ms. H. Butungi	Teaching Assistant	BSc.	Contract
17	Ms C. Aguttu	Teaching Assistant	MSc.	Contract
18	Mr. W.P.Owilla	Chief Technician		Permanent
19	Mr. J.F. Jjuuko	Principal Technician		Permanent
20	Mr. P.J. Ojambo Nyegenya	Senior Technician		Permanent
21	Ms. R. Nabacwa	Senior Technician		Permanent
22	Mr. S. Lutwama	Technician I		Permanent

23	Mr. K. Mukisa	Technician I		Permanent
24	Mr. G. Mugenyi	Technician II		Permanent
25	Mr. T. Abok	Technician II		Permanent
26	Mr. E. Musali	Assistant Technician		Permanent
27	Mr. A.M. Mutejuka	Assistant Technician		Permanent
28	Mr. S. Mubiru	Laboratory Assistant		Permanent
29	Mr. E. Musisi	Laboratory Assistant		Permanent
30	Mr. A. Bukenya	Laboratory Assistant		Permanent
31	Mr. F. Banja	Laboratory Assistant		Permanent
32	Ms. P. Namande	Laboratory Assistant		Permanent
33	Ms. F. Kabahenda	Laboratory Assistant		Permanent
34	Ms. C. Nuwagaba	Laboratory Assistant		Permanent
35	Ms. B. Nabisubi	Laboratory Attendant		Permanent
36	Ms. F. Mulinda	Laboratory Attendant		Permanent
37	Mr. F. Ssemuju	Laboratory Attendant		Permanent
38	Ms. H.A. Bacwa	Senior Copy Typist		Contract
39	Ms. B. Kainza	Cleaner		Permanent
40	Mr. G. Kaleera	Cleaner		Permanent

Sports Science

No.	Names	Title	Education	Status
1	Dr. S. Kasoma	Assistant Lecturer	PhD	Permanent
2	Dr. A. Nankwanga	Assistant Lecturer	PhD	Permanent
3	Mr. D.D. Bamweyana	Teaching assistant	MSc.	Contract
4	Mr. B. Wandera	Teaching assistant	MSc.	Contract
5	Ms. B. Nakabazzi	Teaching assistant	MSc.	Contract
6	Mr. L. Mugisha	Teaching assistant	MSc.	Contract
7	Ms. W. Nakazibwe	Teaching assistant	MSc.	Contract
8	Mr. S.K. Oola	Teaching assistant	MSc.	Contract
9	Mr. B. Temper	Teaching Assistant	MSc.	Contract

Department of Biological Sciences
Zoology

NO.	NAME	TITLE	Education	STATUS
1	Prof. F. Bugenyi	Professor	PhD	Contract
2	Prof. J.B. Kaddu	Professor	PhD	Contract
3	Dr. D. Baranga	Assoc. Professor	PhD	Contract
4	Dr. G.Isabirye-Basuta	Assoc. Professor	PhD	Contract
5	Dr. F.J. Muyodi	Assoc. Professor	PhD	Permanent
6	Dr. A. M Akol	Senior Lecturer / Head of Department	PhD	Permanent
7	Dr. C. Masembe	Senior Lecturer	PhD	Permanent
8	Dr. S. Mugisha	Senior Lecturer	PhD	Permanent
9	Dr. A. Kezimbira-Miyingo,	Senior Lecturer	PhD	Permanent
10	Dr. J. Efitre	Lecturer	PhD	Contract
11	Dr. C. Bakuneeta	Lecturer	PhD	Permanent
12	Dr. E. Sande	Lecturer	PhD	Permanent
13	Dr. G. Bwanika	Lecturer	PhD	Permanent
14	Dr. I. B. Rwego	Lecturer	PhD	Permanent
15	Dr. J.J. Kisakye	Assistant Lecturer	PhD	Permanent
16	Ms. J. Nattabi Kigongo	Assistant Lecturer	MSc.	Permanent
17	Mr. R. Odongo	Assistant Lecturer	MSc.	Permanent
18	Dr. P. Akoll	Teaching Assistant	PhD	Contract
19	Dr. K. G. Kubiriza	Teaching Assistant	MSc.	Contract
20	Dr. R. Kityo	Museum Curator	PhD	Permanent
21	Ms. N. Ndagire	Senior Technician/Ag. Chief Technician		Permanent
22	Mr. A. Walyelo Alex	Technician I		Permanent
23	Ms. D. Nampiima	Laboratory Assistant		Permanent
24	Ms. E. Mulwana	Laboratory Assistant		Permanent
25	Mr. B. Rugasira	Assistant Technician		Permanent
26	Ms. V. Namagala	Assistant Technician		Permanent
27	Mr. D. Nsubuga	Laboratory Assistant I		Permanent
28	Mr. F. Ebonga	Laboratory Assistant I		Permanent
29	Mr. J. Muchunguzi	Laboratory Assistant		Permanent
30	Mr. C. Abba	Assistant Technician		Permanent
31	Mr. T. Mangeni	Laboratory Assistant		Permanent
32	Mr. D. Walusimbi	Laboratory Attendant		Permanent
33	Ms. Sarah Nassuna	Laboratory Attendant		Permanent
34	Ms. R. Nabulega	Laboratory Attendant		Permanent
35	Ms. G. Oyo	Laboratory Attendant		Permanent
36	Ms. G. Namuli	Laboratory Attendant		Permanent
37	Ms. E. Kobusingye	Principle Copy Typist		Permanent
38	Mr. C. Sebidde	Library Assistant		Permanent

Botany

NO.	NAME	TITLE	Education	STATUS
1	Prof. R. Bukenya-Ziraba	Professor	PhD	Permanent
2	Prof. Oryem-Origa H	Professor	PhD	Contract
3	Dr. E. Kakudidi	Assoc. Professor	PhD	Permanent
4	Dr. G. Mutumba	Assoc. Professor	PhD	Contract

NO.	NAME	TITLE	Education	STATUS
5	Dr. P. Mucunguzi	Assoc. Professor	PhD	Permanent
6	Dr. S. Nyakaana	Assoc. Professor	PhD	Permanent
7	Dr. M. M Kamatenesi	Senior Lecturer	PhD	Permanent
8	Dr. J. Kalema	Senior Lecturer	PhD	Permanent
9	Dr. C.Nyakoojo	Lecturer	PhD	Permanent
10	Dr. A. Tugume	Lecturer	PhD	Permanent
11	Dr. P. Ipulet	Lecturer	PhD	Permanent
12	Dr.E. Nakamatte	Lecturer	PhD	Permanent
13	Ms. T. Tindyebwa	Teaching Assistant	BSc.	Contract
14	Mr. S. Ojelel	Teaching Assistant	BSc.	Contract
15	Mr.G. Anywar	Teaching Assistant	BSc.	Contract
16	Ms. P. Tugume	Teaching Assistant	MSc.	Contract
17	Dr. M. Namaganda	Principal Assistant Curator	PhD	Permanent
18	Dr. P. Ssegawa	Herbarium Curator	PhD	Permanent
19	Ms. M. Rugomwa	Principal Technician		Permanent
20	Mr. M. Zziwa	Senior Technician		Permanent
21	Mr. E. Niyonzima	Technician I		Permanent
22	Ms. Maganyi W. Olivia	Technician I		Permanent
23	Mrs Byarugaba Savina	Technician II		Permanent
24	Ms. Beatrice Namusisi	Laboratory Attendant		Permanent
25	Mr. W. Semasaka N.	Laboratory Attendant		Permanent
26	Mr. Stephen Ochepa	Laboratory Attendant		Permanent
27	Mr. H. Kiryose	Laboratory Assistant		Permanent
28	Mr. David Senoga	Laboratory Assistant		Permanent
29	Mr. G. Nakabale	Laboratory Assistant		Permanent
30	Mr. S. Ofwono	Laboratory Assistant		Permanent
31	Ms. F. Babirye Kataike	Pool Stenographer		Permanent
32	Ms. A. Namembwa	Cleaner		Permanent
33	Ms. Nabwami	Cleaner		Permanent
34	Ms. C. Auma	Cleaner		Permanent
35	Ms. A. Katusiime	Cleaner		Permanent
36	Ms. R. Nanfuka	Cleaner/Messenger		Permanent
37	Mr. R. Kiluge	Groundsman		Permanent
38	Ms. M. Wanadi Iyundhu	Groundswoman		Permanent
39	Mr. F. Sekandi	Groundsman		Permanent

Department of Chemistry

NO.	NAME	TITLE	Education	STATUS
1	Prof. B.T. Kiremire	Professor	PhD	Contract
2	Prof. H. Ssekaalo	Professor	PhD	Contract
3	Dr. Steven A. Nyanzi	Assoc. Professor	PhD	Permanent
4	Dr. J. Mbabazi	Assoc. Professor	PhD	Permanent

NO.	NAME	TITLE	Education	STATUS
5	Dr. M. Ntale	Senior Lecturer (Head of Department)	PhD	Permanent
6	Dr. G.W. Nyakairu	Senior Lecturer	PhD	Permanent
7	Dr. R. Byamukama	Lecturer	PhD	Permanent
8	Dr. J. Wasswa	Lecturer	PhD	Permanent
9	Dr. G. Kasozi	Lecturer	PhD	Permanent
10	Mr. R. S. Muyanja	Lecturer	MSc.	Permanent
11	Mr. M. G. Mabudo	Lecturer	MSc.	Permanent
12	Mr. J. Sekamate	Lecturer	MSc.	Permanent
13	Dr. Betty B. Naziriwo	Lecturer	MSc.	Permanent
14	Mr. E. Tebandeke	Assistant Lecturer	MSc.	Permanent
15	Mr. E. Mubiru	Assistant Lecturer	MSc.	Permanent
16	Ms J. O. Namukobe	Assistant Lecturer	MSc.	Permanent
17	Mr. P. Ssebugere	Assistant Lecturer	MSc.	Permanent
18	Mr. Maiki E. Peter	Assistant Lecturer	MSc.	Permanent
19	Mr. Arinaitwe Kenneth	Assistant Lecturer	MSc.	Permanent
20	Mr. I.T. Mukasa	Teaching Assistant	MSc.	Contract
21	Ms M. Adia Madina	Teaching Assistant	MSc.	Contract
22	Mr. Yiga Solomon	Teaching Assistant	MSc.	Contract
23	Mr. Ochieng Richard	Teaching Assistant	BSc.	Contract
24	Mr. Ruharara Budigi	Chief Technician		Permanent
25	Mr. Bitainensha Christopher	Principal Technician		Permanent
26	Mr. Mulinda Stephen	Senior Technician		Permanent
27	Mr. Jjagwe Nkalubo Geoffrey	Technician I		Permanent
28	Mr. Tindyebwa Sam	Technician I		Permanent
29	Ms Tebbadanya Susan	Technician II		Permanent
30	Mr. Kavuma Peter	Technician II		Permanent
31	Mr. Obure Ojur Peter	Technician II		Permanent
32	Mr. Nkolongo Moses	Technician II		Permanent
33	Mr. Ssensamba Dan	Technician II		Permanent
34	Ms. Nabachwa Margaret	Copy Typist		Permanent
35	Ms Kayanja Jane	Lab. Assistant		Permanent
36	Mr. Kasozi John	"		Permanent
37	Mr. Amany Jackson	"		Permanent
38	Mr. Masongole Steven	"		Permanent
39	Mr. Mukasa Edward	"		Permanent
40	Mr. Mukeda Emmanuel	"		Permanent
41	Mr. Mugisa Tito	"		Permanent
42	Mr. Kamukama Steven	"		Permanent
43	Mr. Adriko Tom	"		Permanent
44	Mr. Opio John	"		Permanent
45	Mr. Tumwekwase Joseph	"		Permanent
46	Ms. Nakibuuka Joyce	"		Permanent
47	Ms. Asaba Zaituni	"		Permanent

NO.	NAME	TITLE	Education	STATUS
48	Ms. Nazziwa Harriet	"		Permanent
49	Mr. Mugisa Charles	"		Permanent
50	Mr. Mugisha Stephen	"		Permanent

Department of Geology and Petroleum Studies

NO.	NAME	TITLE	Education	STATUS
1.	Dr. E. Barifaijo	Assoc. Professor	PhD	Permanent
2	Dr. A. Muwanga	Assoc. Professor	PhD	Permanent
3	Dr. J.V. Tiberindwa	Senior Lecturer/ Head of Department	PhD	Permanent
4	Dr. I. Ssemmanda Nakimera	Senior Lecturer	PhD	Contract
5.	Dr. M. Owor	Senior Lecturer	PhD	Permanent
6	Dr. B. Nagudi	Lecturer	PhD	Permanent
7	Dr. J. M. Kiberu	Lecturer	PhD	Permanent
8	Ms. P. Kulyanyingi Kiwuwa Kalega	Lecturer	MSc.	Permanent
9.	Ms. A. Kuterema Alaba	Lecturer	MSc.	Permanent
10	Dr. K. Aanyu	Assistant Lecturer	PhD	Permanent
11	Mr. W. Kawule	Assistant Lecturer	MSc.	Permanent Study Leave
12	Mr. A. G. Batte	Assistant Lecturer	MSc.	Permanent Study leave
13	Mr. R. Mamgbi	Assistant Lecturer	MSc.	Contract
14	Mr. L. Twinomujuni	Teaching Assistant	MSc.	Permanent
15	Ms. S. Kigozi	Senior Technician/Ag. Chief Technician		Permanent
16	Mr. M.Kasaka	Technician I		Permanent
17	Mr. W. Kasule	Technician II		Contract
18	Mr. J. Wakyaya	Laboratory Assistant 1		Permanent
19	Ms. J. Tumwebaze	Senior Copy Typist		Permanent
20	Mr. R. Sessanga	Laboratory Assistant II		Contract
21	Mr. E. Emodock	Laboratory Attendant		Permanent
22	Ms. G. Ssekamanya	Laboratory Attendant		Permanent
23	Ms. Namisango	Cleaner/Messenger		Permanent
24	Mr. Balyejusa	Driver		Permanent

Department of Physics

NO	NAME	TITLE	Education	STATUS
1	Prof. Y. Kaahwa	Professor	PhD	Contract
2	Prof. E.J.B.K. Banda	Professor	PhD	Contract
3	Prof. T. T. Oti	Professor	PhD	Permanent
4	Dr. F. D'Ujanga	Senior Lecturer/Head of Department	PhD	Permanent
5	Dr. A.N. Kisolo	Lecturer	PhD	Permanent
6	Dr. W. Okullo	Lecturer	PhD	Permanent
7	Dr. T.J. Ssenyonga	Lecturer	PhD	Permanent
8	Dr. J. Mubiru	Lecturer	PhD	Permanent
9	Dr. W. T. Ireeta	Lecturer	PhD	Permanent
10	Dr. N. Ssebiyonga	Assistant Lecturer	PhD	Permanent

NO	NAME	TITLE	Education	STATUS
11	Mr. K. Nyeinga	Assistant Lecturer	MSc.	Permanent
12	Mr. D. Okello	Assistant Lecturer	MSc.	Permanent
13	Mr. N. Kwarikunda	Assistant Lecturer	MSc.	Permanent
14	Mr. B.F. Twinamasiko	Assistant Lecturer	MSc.	Permanent
15	Mr. S. Tusiime	Teaching Assistant	MSc.	Permanent
16	Mr. A. Okello	Teaching Assistant	BSc.	Contract
17	Mr. D. Muyimbwa	Teaching Assistant	BSc.	Contract
18	Ms. A. E. Zawedde	Teaching Assistant	BSc.	Contract
19	Ms. G. Ayugi	Teaching Assistant	MSc.	Contract
20	Mr. M. Musoke	Senior Technician (Ag. Chief Technician)		Permanent
21	Mr. S.L. Kwizera	Senior Technician		Permanent
22	Mr. R. Nteziyaremye	Technician I		Permanent
23	Mr. F. M. Okiror	Technical Assistant		Permanent
24	Mr. M. Kawumba	Laboratory Assistant I		Permanent
25	Ms. M. Naibinga	Laboratory Assistant II		Permanent
26	Ms. H. Namakoye	Ag. Copy Typist		Permanent
27	Mr. R. Kasozi	Cleaner/Lab. Assistant		Permanent
28	Ms. I. Namalwa	Cleaner		Permanent
29	Mr. J. Okullo	Cleaner		Permanent
30	Ms. D. Nakiwunge	Messenger/Cleaner		Permanent
31	Mr. S. Kobusingye	Cleaner		Permanent
32	Ms. A. Namulwa	Cleaner		Permanent

Department of Mathematics

NO.	NAME	TITLE	Education	STATUS
1	Prof. L. S. Luboobi	Professor	PhD	Contract
2	Prof. J. Y. T. Mugisha	Professor (Ag. Principal, College of Natural Sciences)	PhD	Permanent
3	Dr. J. M. Mango	Senior Lecturer (Dean/School of Physical Sciences)	PhD	Permanent
4	Dr. J. Kasozi	Senior Lecturer (Head of Department, Mathematics)	PhD	Permanent
5	Dr. S. H. Nsubuga	Lecturer	PhD	Permanent
6	Dr. H. Namata	Lecturer	PhD	Permanent
7	Mr. M. K. Nganda	Lecturer	MSc.	Permanent
8	Mr. W. G. Naigambi	Lecturer	MSc.	Permanent
9	Mr. A. Buyego	Lecturer	MSc.	Permanent

NO.	NAME	TITLE	Education	STATUS
10	Dr. C. S. Ssebugenyi	Lecturer	PhD	Permanent
11	Dr. G. Kakuba	Lecturer	PhD	Permanent
12	Mrs. B. K. N. Kirenga	Assistant Lecturer	MSc.	Permanent
13	Dr. B. K. Nannyonga	Assistant Lecturer	PhD	Contract
14	Mr. D. W. Ddumba	Assistant Lecturer	MSc.	Permanent
15	Mr. I.G. Mirumbe	Assistant Lecturer	MSc.	Permanent
16	Mr. J. M. Kitayimbwa	Assistant Lecturer	MSc.	Permanent
17	Ms. J. Nakakawa	Assistant Lecturer	MSc.	Contract
18	Mr. A. B. Tumwesigye	Teaching Assistant	MSc.	Contract
19	Mr. F. Mayambala	Teaching Assistant	MSc.	Contract
20	Mr. I. Ndikubwayo	Teaching Assistant	BSc.	Contract
21	Mr. D. Wokiyi	Teaching Assistant	BSc.	Contract
22	Mr. N. Muyinda	Teaching Assistant	BSc.	Contract
23	Ms. E. Nakazibwe	Secretary		Permanent
24	Mr. A. Wandera	Computer Lab/ Librarian		Permanent
25	Mr. E. Niyonzima	Cleaner/Messenger		Permanent
26	Mr. A. Habarurema	Cleaner/Messenger		Permanent
27	Ms. P. Nazziwa	Cleaner/Messenger		Permanent