

**DEPARTMENT OF BIOLOGICAL SCIENCES
UNIVERSITY OF NAMIBIA**

ANNUAL REPORT 2010

Introduction

Mission & Vision

The mission for the Department of Biological Sciences is to train and produce high quality biological scientists, both at undergraduate and postgraduate levels who will play crucial roles in the national development, especially in areas of education, health, agriculture, environment, natural resources and industries. Recognizing that learning is a lifelong endeavor, the Department of Biological Sciences admits both young and mature students. Our Vision is to become a department of high international repute and centre for excellence in training biological scientists in the region, at both undergraduate and postgraduate levels.

Activities

During the academic year 2010, activities undertaken in the Department of Biological Sciences included teaching of undergraduate and postgraduate students. The first group of students completed the new four year NQL level 8 curriculum. The Department also reviewed the MSc Biodiversity Management and Research Programme in preparation for the third intake. Members have been active in research and publications as summarized below.

Staff matters

Mr. V.M. Haakuria continued to be on SDF leave doing a PhD in the UK. Mr. T. Akawa, a Technologist, resigned to take up a similar position in the Department of Fisheries and Marine Resources in the Faculty of Agriculture and Natural Resources. Two new Technologists were appointed: Ms M. Johnson and Mr. A. Mbangi. Both are former students and graduates of the Department. Mr. JD. Uzabakiriho was promoted to the rank of Senior Technologist. There were 13 full time lecturing staff (9 males and 4 females) and 6 full-time full time staff (3 males and 3 females) in the Department in 2010. Dr. Maass continued with her additional duties as Director of the Teaching and Learning Improvement Unit, and so did Prof. Mapaure as UNAM's Research Coordinator. Dr. Chimwamurombe also continued as Acting Manager of ZERI in addition to his responsibilities in the Department.

Staff names, positions and gender

Full-time academic staff:

	NAME	POSITION	GENDER
1	Dr R. Böck	Lecturer & Head of Department	Male
2	Dr E. Maass	Senior Lecturer	Female
3	Dr J.K.E. Mfunne	Senior Lecturer	Male
4	Prof. I. Mapaure	Associate Professor	Male
5	Dr P.M. Chimwamurombe	Senior Lecturer	Male
6	Dr E.M. Julies	Lecturer	Female

7	Dr N. Shiponeni	Lecturer	Female
8	Mr B. Kaonjua	Lecturer	Male
9	Mr K.C. Chinsembu	Lecturer	Male
10	Mr A.K. Faul	Lecturer	Male
11	Mr V.M. Haakuria	Lecturer [<i>on Study leave</i>]	Male
12	Ms W.C. Mukaru	Lecturer	Female
13	Mr. H. Eiman	Lecturer	Male
14	Mr. M. Hedimbi	Lecturer	Male
15	Ms C. Amoo	<i>Part-time</i> Lecturer/Tutor	Female

Full-time technical staff:

	NAME	POSITION	GENDER
1	Mr J-D. Uzabakiriho	Technologist	Male
2	Mrs M. Morkel	Technologist	Female
3	Mr A. Hijarunguru	Technologist	Male
	Ms. M. Johnson	Technologist	Female
4	Mr A. Mbangu	Technologist	Male
5	Mrs R. Shimwooshili	Assistant Laboratory Technician	Female

Detailed staff statistics

- i. Total number of full-time staff = 20
- ii. Ratio of female to male staff = 7:13
- iii. Number of Namibians = 15; Number of Non-Namibians = 5; % Namibians = 75%

- iv. Number of Resignations: 1
- v. Number of new Appointments = 2
- vi. Number of Promotions = 1
- vii. Number on study leave = 1

Research and Consultancies

Prof. Mapaure

- Assessment of the environmental impacts of acid mine drainage (AMD) from mine dumps on flora, soils, ground water and surface water in central Namibia. Project is funded by the UNAM Research & Publications Office. Field work continued to assess impacts on invertebrates. Work focused on writing up papers (field activities ended).
- Studies of the feeding ecology of Kudu in relation to range condition in Gondwana Canyon Park, southern Namibia. Project is funded by the UNAM Research & Publications Office. Work focused on writing up papers (field activities ended).
- Building Capacity to Assess and Increase the Climate Change Mitigation and Adaptation Capacities of Vulnerable Communities in Southern Africa. Project is headed by the University of Florida and Rhodes University, funded by the US Higher Education Development initiative. This funding is a Planning Grant to the tune of US\$50 000 and was obtained through a highly competitive process. Work focused on developing a 10-year Strategic Plan for a Proposal to look for more funding to do the actual research.
- Impact of Tourism on natural resources in Etosha National Park and Human-Wildlife conflict along the boundaries of the park. Research Project is funded by the Government of the Republic of Namibia (NDP III funds) and implemented by UNAM through the MRC. First phase of data collection was conducted during the year and draft papers prepared.

Dr. Shiponeni

- Moringa ovalifolia for health – A survey on the indigenous knowledge and uses of Moringa tree in Namibia. Project funded through the Joint Economic AIDS & Poverty Programme of the Australian Government Aid Program.
- Fire effects on grass and woody plants in savanna.

Dr. Chimwamurombe

- Indigenous Ganoderma value addition through cultivation, harvesting and processing: Empowering society through innovative science and technology (IGC-ESTIST) CPP/UNEP/GEF
- Cultivation of Marama Bean: A new crop for Cash and Sustainable Land Management (COMB-CSLM). CPP/UNEP/GEF
- Domestication of Marama bean: Agronomy and molecular genetic characterization for its improvement Kirkhouse Trust

Mr. Chinsembu

- Validation of traditional medicines for treatment of HIV/AIDS in Namibia 2008 to date UNAM, NEPAD SANBio. In collaboration with Mr. Hedimbi, Dr. Hans and others.

Dr. Maass

- Floral Biology of Hydnora. Funded through Unam RPC. In collaboration with Mr. Faul

Dr. Julies

- Water quality. Funded through UNAM's RPC. In collaboration with Prof. Pool (University of Western Cape), Mr. J. Menge (Municipality of Windhoek) and Mr. A. Faul (UNAM)
- Presence of endocrine disrupting chemicals in surface water of Namibia. Joint funding from Ministry of Education and NRF, South Africa. In collaboration with Prof. Pool (University of Western Cape), Prof. Van Wyk (University of Stellenbosch) and Mr. A. Faul (UNAM)
- Formation of a Regional Centre of Expertise (RCE) in Environmental Education/Education for Sustainable Development. Funding partly through UNESCO and other partners. Leading in the establishment of RCE are Dr. E. Julies and Dr. C. Shim. All stakeholders in ESD are involved in the RCE
- Training of Fisheries Inspectors on Marine Protected Areas. Proposal completed and funding is still being sought. Dr. E. Julies, Mr. S. Mafwila and Mr. F. Nashima.

Dr. Mfunne

- Emerging viruses in western and southern Africa: Molecular identification and characterization of rodent- and shrew-borne Hantaviruses and assessment of their public health potential. Funded through German Government under German-Africa Cooperation Projects in Infectology. In collaboration with Prof. D. Kruger, Dr L. Koivogui, Dr S. Matthee, Prof. W. Preiseir and Dr J. Meulen
- Impact of Tourism on Natural Resources in Etosha National Park and Human Wildlife Conflict along the Boundaries of the Park. Funded through MET (NDP3 funding) in collaboration with Ms M. Angula, Dr M. Hipondoka, Prof. I. Mapaure, Dr Graaz, and Ms Selma Lendelvo
- Eco-physiological responses of ungulates towards heat and drought in Namibian desert. In collaboration with Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany: Dr C. Voigt and David Lehmann.
- The effects of grazing by large herbivores on family diversity and family composition of ground-dwelling invertebrates at selected sites in Etosha National Park.
- Comparison of family diversity and composition of ground dwelling invertebrates in a grassland habitat, mixed woodland habitat and intervening ecotone at a selected site in Etosha National Park.

Mr. Faul

- Water Quality Assessment of Important Water Sources in Namibia. Funded through UNAM's RPC. In collaboration with Dr. E Julies.
- The development and implementation of biomarker assays to monitor environmental water. Funded through South Africa / Namibia Joint Science and Technology Research Agreement. In collaboration with Prof E. Pool (University of Western Cape/South Africa) and Dr. E Julies (UNAM)
- Environmental impact assessment study on Invertebrates of Inca, Tibas and Shiyela. Reptile Uranium Namibia (Run)

Mr. Hedimbi

- A survey of indigenous plants that are used to treat malaria and ailments with symptoms similar to those of malaria in Otjikoto and Ohangwena region, Namibia. Funded through UNAM's Multidisciplinary Research Center. In collaboration with Dr. Renate Hans, Dr. Davis Mumbengegwi and Dr. Ronnie Bock
- Evaluation of Namibian plants as sources of potential anti-malaria products. Funded through UNAM's RPC. In collaboration with Dr. Renate Hans, Dr. Davis Mumbengegwi and Dr. Ronnie Bock

Dr. Bock

- MRC Pharmaceuticals programme. Funded through UNAM's RPC, MRC and Ministry of Education. Further funding to be solicited. In collaboration with Dr. D. Mumbengegwi, Prof. E. Kiremire and Dr. H. MuAshekele
- Applying Molecular Techniques to Interventions against the Major Poverty Related Diseases (HIV, TB and Malaria) for Improving Disease Control. African Regional Co-operation Agreement (AFRA) project; International Atomic Energy Agency. Project Proposal accepted under the African Regional Co-operation Agreement (AFRA) Project Code: RAF/6/040 Project supports predominantly Technical Assistance and Capacity building. In collaboration with Dr. D. Mumbengegwi
- MRC IKS Programme lead by Dr. A. Cheikhyousef. Funded through UNAM's RPC, MRC and Ministry of Education. Further funding to be solicited. Also in collaboration with Dr. E. Naomab and others
- A study on the relationship between nutritional status and clinical outcomes of malaria in order to strengthen interventions for the elimination of the disease in Namibia. Project Concept accepted by IAEA NAM2010003 IAEA. In collaboration with Dr. D. Mumbengegwi, Mr. S. Katokele, Dr. P. Uusiku and Ms. M. van Wyk (MoHSS), Ms. C. Keyter (UNAM) and others.
- Southern African Research Network for Roll Back Malaria (SARN): Malaria Operational Research. Funded through WHO, SADC, MoHSS. In collaboration with Dr. D. Mumbengegwi, Dr. P. Uusiku, Mr. H. Angula, Mr. S. Katokele, Ms. C. Narib, Dr. B. Noden, WHO and others.

Papers published, submitted or presented at workshops/conferences

Refereed journal articles

- Beyer, H.L. and Faul, A.K. (2010). Namibian University Entrants' Concepts of 'a dictionary'. *Lexikos* 20, 644-679.
- Bolin, J. F., Tennakoon K.U. and Maass E. (2010). Mineral nutrition and heterotrophy in the water conservative holoparasite *Hydnora* Thunb. (HYDNORACEAE). *Flora* 205, 802-810.
- Bolin, J. F., Maass E. and Musselman L.J. A new species of *Hydnora* (Hydnoraceae) from southern Africa. Submitted in 2010 and accepted for publication in 2011 in *Systematic Botany*.
- Chimwamurombe, P.M.(2010). Domestication of *Tylosema esculentum* (marama bean) as a crop for Southern Africa: Genetic diversity of the Omitara marama subpopulation of Namibia *Aspects of Applied Biology* 96, 37-43.
- Chimwamurombe P., Mapaure, I. and Claassen P. (2010). Understanding the relationship between indigenous (traditional) knowledge systems (IKS), and access to genetic resources and benefits sharing (ABS). *African Journal of Biotechnology* 9 (54), 9204-9207.
- Chinsembu, K.C. and Hedimbi M. (2010). An Ethnobotanical survey of Plants used to Manage HIV/AIDS Opportunistic Infections in Katima Mulilo, Caprivi Region, Namibia. *Journal of Ethnobiology and Ethnomedicine* 6(25).
- Chinsembu, K.C. and Hedimbi M. (2010). Ethomedicinal Plants and other Natural Products with Anti-HIV Compounds and their Putative Modes of Action. *International Journal for Biotechnology and Molecular Biology Research* 1(6), 74-91.
- Chinsembu, K.C, and Hedimbi M. (2010). A survey of Plants with Anti-HIV Active Compounds and their Modes of Action. *Medical Journal of Zambia* 36(4).
- Chinsembu, K.C. and Faul, A. (2010). Iron starvation induces expression of a putative xylanase gene in *Salmonella enterica* subsp. *Enterica* serovar *Enteritidis*

mini-transposon5 lacZ1 mutants. *International Journal of Genetics and Molecular Biology* 2(7), 140-146.

- Chinsebu, K.C. and Hedimbi, M. (2010). Ethnomedicinal plants and other natural products with anti-HIV compounds and their putative modes of action. *International Journal for Biotechnology and Molecular Biology Research* 1(6): 74-91.
- Chinsebu, K.C. and Hedimbi, M. (2010). An ethnobotanical survey of plants used to manage HIV/AIDS opportunistic infections in Katima Mulilo, Caprivi region, Namibia. *Journal of Ethnobiology and Ethnomedicine* 6:25 Available at: <http://www.ethnobiomed.com/content/pdf/1746-4269-6-25.pdf>
- Chinsebu, K.C., Hakwenye, H. and Uzabakiriho, J-D. (2010). Isolation and serotyping of *Legionella pneumophila* from Goreangab dam and hostel shower heads in Namibia. *African Journal of Microbiology Research* 4(16): 1890-1896. Available at: <http://www.academicjournals.org/ajmr/PDF/Pdf2010/18Sep/Chinsebu%20et%20al.pdf>
- Chinsebu, K.C. and Hedimbi, M. A survey of plants with anti-HIV active compounds and their modes of action. *Medical Journal of Zambia* (accepted for publication).
- Du Preez, C.I., Bock, R. and Mumbengegwi, D.R. (2010); Validation of ethnomedicinal plant knowledge in the Oshikoto region through botanical identification and biological assessment of its value as complementary medicine for malaria. Accepted for publication in 2011.
- Jackson, JC, Kwaku G. Duodu, Mette Holse, Margarida D. Lima de Faria, Danie Jordaan, Walter Chingwaru, Aase Hansen, Avreljja Cencic, Martha Kandawa-Schultz, Selalelo M. Mpotokwane, Percy Chimwamurombe, Henrietta L. de Kock, and Amanda Minnaar, The Morama Bean (*Tylosema esculentum*): A Potential Crop for Southern Africa. In Stephen Taylor, editor: *Advances in Food and Nutrition Research*, Vol. 61, Burlington: Academic Press, 2010, pp. 187-246. ISBN: 978-0-12-374468-5 © Copyright 2010 Elsevier Inc. Academic Press.

- Jones, P., Salewski, V., Vickery, J. and Mapaire, I. (2010). Habitat use and densities of co-existing migrant Willow Warblers *Phylloscopus trochilus* and resident eremomelas *Eremomela* spp in Zimbabwe. *Bird Study* 57, 44-55
- Julies, E.M., Fuchs B.M., Arnosti C. and Brüchert V. (2010) Organic carbon degradation in anoxic organic rich shelf sediments: Biogeochemical rates and microbial abundance. *Journal Geomicrobiology* 27, 303-314.
- Nakwaya, D, Mfuno, J.K. and Tromp, S. (In Press). Dietary shifts of the black mongoose (*Galerella nigrata*) in northern Namibia. Submitted to Mammalian Biology (Ref. No.: MAMBIO-D-10-00176)
- Nepolo E, Chimwamurombe PM, Kandawa Schulz MA and Cullis CA. (2010). Determining genetic diversity based on ribosomal intergenic spacer length variation in Marama bean [*Tylosema esculentum* (Burchell) L. Schreiber] in Omaheke region, Eastern Namibia. (Accepted, African Journal of Plant Sciences).
- Takundwa M, Nepolo E, Chimwamurombe P.M., Kandawa Schulz M.A., Cullis C.A. and Kunert K. (2010). Development and use of microsatellites markers for genetic variation analysis, in the Namibian germplasm, both within and between natural populations of Marama bean (*Tylosema esculentum*). *Journal of Plant Breeding and Crop Science* 2 (8), 233-242.
- Takundwa, M., Chimwamurombe, P.M., Kunert, K. and Cullis, C.A. (2010). Isolation and characterization of microsatellite repeats in Marama bean (*Tylosema esculentum*). *African Journal of Agricultural Research* 5(7), pp. 561-566.
- Shikongo, M.N., Chimwamurombe P.M., Kachigunda B. and Venter S.N. (2010). Factors impacting on the microbiological quality and safety of processed hake. (In press, *African Journal of Biotechnology*).
- Shiponeni, N.N., Allsopp, N., Carrick, P.J, and Hoffman, MT. In press. Competitive interactions between grass and succulent shrubs at the ecotone between an arid grassland and succulent shrubland in the Karoo. *Plant Ecology*.

Published conference proceedings and Conference papers delivered

- Bolin, J.F., Maass E. and Musselman L.J. Recent advances in the biology of Hydnora (Hydnoraceae) . Submitted in 2010 and accepted for publication in 2011 in *Haustorium*
- Bolin, J.F., Motley T.J., Wurdack, K., Maass, E. and Musselman L.J. (2010, July) A molecular phylogeny and revised taxonomy of the holoparasitic family Hydnoraceae. Paper presented at Botany 2010, Rhode Island, USA
- Du Preez, C.I., Bock, R. and Mumbengegwi, D.R. (2010, 15-17 September); Validation of ethno-medicinal plant knowledge in the Oshikoto region through botanical identification and biological assessment of its value as complementary medicine for malaria. Presented at National Research Symposium, Safari Hotel, Windhoek
- Du Preez, C.I., Bock, R. and Mumbengegwi, D.R. (2010, 15-17 September 2010); Validation of ethno-medicinal plant knowledge in the Oshikoto region through botanical identification and biological assessment of its value as complementary medicine for malaria. Paper presented at the First National Research Symposium, Safari Hotel, Windhoek
- Hedimbi, M., Kaaya G.P. and Singh S. (2010). The Potential of Chemical Sunscreens in protecting the conidia of *Metarhizium anisopliae* from damage by UV Radiation. DAE-BRNS National Laser Symposium (NLS-19). Raja Ramanna Center for Advanced Technology (RRCAT), Indore, INDIA.
- Julies E.M. (2010, 5-7 August). Towards the first Regional Center of Expertise for Education for Sustainable Development in Namibia. Paper presented at the Namibian Environmental Education Network, Symposium, Okatjikona Environmental Education Center, Waterberg, Namibia.
- Julies E.M. (2010, 5-7 August 2010). The Earth Charter – How does it apply to us? Paper presented at the Namibian Environmental Education Network, Symposium, Okatjikona Environmental Education Center, Waterberg, Namibia.
- Mapani, B.S., Chimwamurombe, P. M., Mapaure, I., Miller, J.A. and Mileusnic, M. (2010, 24-25 March). Estimation of Climate change and adaptation strategies using water, soil and honey as sampling media: examples from Namibia. Paper presented at a Climate Change Conference organised by Regional Agricultural

and Environment Initiatives Network (RAEIN-Africa), Birchwood Hotel, Johannesburg, South Africa.

- Mapaure, I., Graz, F.P. and Ihula, R. (2010, 19-23 July). Comparative analysis of vegetation composition and diversity around functional and closed water points in Etosha National Park, Namibia: Preliminary findings. Paper presented at the 45th Congress of the Grassland Society of Southern Africa, 2010. Kimberley, South Africa.
- Mukaru, W.C. and Mapaure, I. (2010, 15-17 September). Impacts of large herbivores on floristic composition, diversity and range condition around water points in Waterberg Plateau Park, central Namibia. Paper presented at the First Biannual National Research Symposium, Safari Hotel, Windhoek.
- Mapaure, I. (201, 9-12 March, 2010). Building Capacity to Assess and Increase the Climate Change Mitigation and Adaptation Capacities of Vulnerable Communities in Southern Africa – Namibia Progress Report. Presented at a HED Climate Workshop, Rhodes University, South Africa.
- Romero, C., Shackleton, S., Putz, F.P., Hamer, N., Lotz-Sisitka, H., Barnes, G., Mapaure, I., Katjiua, M. and Masike, S. (2010, 26-29 January). Building capacity to assess and increase the climate change mitigation and adaptation capacities of vulnerable communities in southern Africa. Paper presented at a Conference on “Bridging Conservation and Development in Latin America and Africa: Changing Contexts, Changing Strategies”, 2010. University of Florida, Gainesville, USA.
- Romero, C., Shackleton, S., Putz, F.P., Hamer, N., Lotz-Sisitka, H., Barnes, G., Mapaure, I., Katjiua, M. and Masike, S. (2010, 26-28th February, 2010). Building capacity to assess and increase the climate change mitigation and adaptation capacities of vulnerable communities in southern Africa. Climate Change Strategic Plan Proposal presented to the Higher Education for Development (HED) Donors Conference, Washington, DC. USA.
- N. Shiponeni, N. Allsopp, M. Vogel, T. Hoffman, M. Keil, (2010, 5 - 6 October 2010) Spatio-temporal distribution at the climatic ecotone between the Bushmanland arid grassland and the Namaqualand shrubland-development tools.

Paper presented at the 2nd SAEON Summit, Kirstenbosch National Botanical Garden., South Africa

Study Guides and Training Manuals

- Hedimbi, M. (2010). Introduction to Microbiology (MBL 3632). Second year module. Department of Biological Sciences, University of Namibia.
- Hedimbi, M. (2010). Parasitology (MIC 3802). Fourth year module. Department of Biological Sciences, University of Namibia.

Research Reports

- Kaholongo I.K. and Mapaure I. (in prep). Environmental determinants of diversity, composition and structure of the vegetation of Uukolonkadhi Community Forest, north western Namibia. (Submitted, Namibia Development Journal).
- Mapaure, I. and Ndeinoma A. (in prep.). Impacts of local-level utilization pressure on the structure of mopane woodlands in Omusati Region, northern Namibia (Submitted, African Journal of Plant Sciences).
- Ndeinoma, A., Gondo, T. and Mapaure, I. (in prep). Institutional arrangements for community forestry in mopane woodlands in Omusati Region in Namibia. (Submitted, Namibia Development Journal).

Popular publications

- Potgieter, S., Morkel, M, Faul, A. 2010. Science Corner. EduNews (Edition 15), pp 26-31.
- Potgieter, S., Morkel, M, Faul, A. 2010. Science Corner. EduNews (Edition 16), pp 26-31

Undergraduate teaching, student statistics and pass rates

YEAR	MODULE	TOTAL NUMBER OF STUDENTS	PASS RATE (%)
I	BLG3411 Introduction to Biology	442	72
	BLG3512 Diversity of Life	387	91.5
	<i>Mean pass rate 1st Year</i>		81.8
II	BLG3611 Animal Form & Function	205	62.9
	EBL3631 Introduction to Ecology	19	100
	MBL3631 Cell Molecular Biology & Genetics	135	87.4
	BLG3612 Plant Form & Function	152	78.3
	EBL3632 Ecological Field Techniques	21	100
	MBL3632 Introduction to Microbiology	109	82.6
	MBL3652 Human Biology	138	89.1
	<i>Mean pass rate 2nd Year</i>		85.8
III	EBL3731 Population Ecology	9	100

	EBL3700 Field Ecology I	4	100
	EBL3711 Fresh water & Marine Ecology	5	100
	MBL3711 Microbiology	31	93.6
	MBL3731 Recombinant DNA Technology	36	97.2
	MBL3751 Plant Physiology	46	71.7
	MBE3771 Cell Molecular Biology, Microbiology and Genetics for Educators	39	84.6
	EBL3732 Conservation Biology & Biodiversity	2	100
	EBL3712 Ecosystem Ecology	3	100
	EBE3772 Environmental Biology for Educators	52	82.7
	MBL3752 Comparative Animal Physiology	31	71
	BLG3702 Research Methodology	31	96.8
	MBL3712 Biotechnology	23	34.8
	MBL3732 Genetics	31	90.3
	<i>Mean pass rate 3rd Year</i>		87.3
IV	EBL3800 Field Ecology II	7	100
	BLG3810 Research Project	18	100
	EBL3811 Environmental Management	9	100
	EBL3831 Biosystematics	11	100
	EBL3851 Biogeography	11	100
	MBL3811 Immunology	11	100
	MBL3831 Applied Molecular Biology	12	91.7

MIC3811 Mycology	9	100
MOL3811 Bioinformatics	1	100
MIC3802 Parasitology	20	95
EBL3802 Disturbance and Restoration Ecology	11	100
EBL3832 Management of Natural Resources	12	75
EBL3812 Behavioural Ecology	8	100
MIC3822 Medical Microbiology	12	100
MIC3812 Environmental and Industrial Microbiology	11	100
MIC3832 Virology	10	100
MOL3812 Applied Genetics	1	100
MOL3832 Plant Growth and Development	69	98.6
MOL3852 Animal Growth and Development	1	100
<i>Mean pass rate 4th Year</i>		97.9
<i>OVERALL MEAN FOR DEPARTMENT</i>		88.2

Postgraduate Supervision

PhD Students

- **Andre Faul:** Endocrine Disrupting chemicals in surface water sources in Namiiba. [Dr. Julies: Co-Supervisor]
- **Catherine Amoo:** A study of the apparent immunity to malaria of the San people in the Oshikoto Region of Namibia. [Dr. Bock: Co-supervisor]
- **Devota Kavishe:** An ecological study of selected *Porphyra capensis* populations from the Namibian coast. [Prof. Mapaire: Main supervisor]

- **Sydney Chikukwa:** Developing a guide for baseline Salmonella agglutinin titres according to age, gender and HIV status in patients attending at hospitals in northern Namibia. [Dr. Chimwamurombe: Co-supervisor]. Proposal accepted.
- **Renatus Peter Shilangale:** Prevalence, Serotype And Antimicrobial Resistance Pattern Of Salmonella Spp. in Namibia's Abattoirs. [Dr. Chimwamurombe: Main-supervisor]. Proposal accepted.
- **Emmanuel Nepolo:** Molecular characterization of Tylosema esculentum starch biosynthesis and related aspects. [Dr. Chimwamurombe: Main-supervisor]. Proposal accepted.
- **Mutsa Takundwa:** Breeding for reduction of reproductive life cycle in Tylosema esculentum. [Dr. Chimwamurombe: Main-supervisor]. Proposal accepted.
- **Charline Kamburona:** Phylogenetic characterization of devil's claw (Harpagophytum procumbens and Harpagophytum zeyheri) in Namibia. [Dr. Chimwamurombe: Co-supervisor].
- **Jean-Damascene Uzabakiriho:** Analysis of microbial community structures and their nifh gene expression in Tylosema esculentum (marama bean) endophytic diazotroph bacteria. [Dr. Chimwamurombe: Main-supervisor]. Proposal accepted.

MSc Students

- **Ndina-Tate Imasiku:** Seasonal variation in species diversity and composition of small mammals in selected vegetation types of Etosha National Park. [Dr. Mfunne: Main supervisor]
- **Nanguel Karuaera:** Assessing effects of bush encroachment on the species abundance, diversity and composition of small mammals in Khomas Region. [Dr. Mfunne: Main supervisor; Dr. Shiponeni: co-supervisor]
- **Zepee Havarua:** Seasonal foraging behavior of the plain zebra (*Equus quagga*) and the african elephant (*Loxodonta africana*) and occurrence of anthrax in Etosha National Park.[Dr. Mfunne: Main supervisor]
- **Julia Hoveka:** Molecular identification and characterization of rodent- and shrew-borne hantaviruses and other viruses and the prevalence of ecto- and endo-parasites on small mammals in selected areas in Namibia. [Dr. Mfunne: Main supervisor and Dr. Chimwamurombe: co-supervisor]
- **Claudine Cloete:** How soil type affects the distribution of infectious sites and the incidence of elephant (*Loxodonta africana*) mortalities due to anthrax in Etosha National Park. [Dr. Mfunne: Main supervisor]
- **Josephine Ipinge:** Waste Management in Etosha National Park, the case of Okaukuejo. [Dr. Mfunne: Main Supervisor]. This student is registered with the University of Free State, South Africa.
- **Absalom Kahumba:** Rehabilitative effect of various methods of bush control on degraded savanna rangelands. [Dr. Shiponeni: Main supervisor]. Thesis passed.
- **Gottlieb Aikukutu:** Application of Nucleic Acid Diagnostics in clinical Chemistry for early Detection of Bovine Campylobacteriosis in Namibia. [Dr. Bock: Main supervisor]
- **Iwanette du Preez:** In vitro assessment of antimalarial activity of medicinal plants used by traditional healers for the potential treatment of malaria. [Dr. Bock: Co-supervisor]. Proposal accepted.

- **Josefina N. Nelongo:** Evaluation of the usefulness of the quantiferon TB gold in-tube test in the diagnosis of tuberculosis disease and as a tool for evaluating the response to tuberculosis chemotherapy in Namibian patients. [Dr. Bock: Co-supervisor]
- **Isak Kaholongo:** Environmental determinants of floristic diversity, composition and structure of the vegetation of Uukolonkadhi Community Forest, north central Namibia. [Prof. Mapaure: Main supervisor]. Student to graduate in April 2010.
- **Celine Mukakalisa:** Molecular, environmental and nutritional evaluation of bambara groundnut (*Vigna subterranea* (L.) Verdc.) for food production in Namibia. [Prof. Mapaure: Co-supervisor]
- **Laimy Shikongo:** Analysis Of The Biologically Active Compounds In The Namibian Ganoderma isolates. [Dr. Chimwamurombe: Main supervisor]. Proposal accepted.
- **Lempie Ekandjo:** Genetic diversity of *Ganoderma lucidum* in North Eastern Namibia. [Dr. Chimwamurombe: Main supervisor]. Proposal accepted.
- **Pauline Kadhila-Muandingi:** Distribution, uses and Genetic diversity of *Ganoderma lucidum* in Northern Namibia. [Dr. Chimwamurombe: Main supervisor]. Proposal accepted.
- **Rauna Hamukwaya:** Investigations on type of humoral immunity against anthrax in predators and scavengers in Namibia. [Dr. Chimwamurombe: Main supervisor]. Proposal accepted.

Community service

Prof. I. Mapaure

UNAM Service

- Active member of the PVC Academic Forum.

- Active member of Academic Planning Committee.
- Active member of the Research & Publications Committee.
- Active member of the UNAM Senate.
- Active member of Faculty of Science Board.
- Active member of Biological Sciences Board.
- Chief Editor of the Namibia Development Journal. Also Chairperson of the Editorial Board of the Journal.
- Member of a UNAM Audit Task Force mandated to audit Centres and Units at the university.
- A member of the Committee of Admission & Examinations for the MSc Biodiversity Management & Research.
- Research Coordinator for the University of Namibia.
- Member of the UNAM Book Store Task Group.
- Member of the Teaching & Learning Improvement Unit Advisory Committee.
- Chairperson of the UNAM Task Force on Research Ethics.
- Member of the UNAM Institutional review Board (IRB).
- Board Member of the Multidisciplinary Research Centre (MRC).

External Service

- Evaluated an application by a Senior Lecturer (Dr Wilson Parawira) at Kigali Institute of Technology (Rwanda) for promotion to Associate Professor (October 2010).
- External examiner for D. Phil. Thesis (Mr Cuthbert A.T. Katsvanga), Faculty of Agriculture and Environmental Science, Bindura University of Science Education, Zimbabwe (March 2010).
- External examiner for Doctor of Philosophy Thesis (Mr Bethwell Moyo) , Faculty of Agriculture, University of Fort Hare, South Africa (February 2010).
- External examiner for the Department of Nature Conservation, Polytechnic of Namibia.
- Member of a number of Professional bodies including the Degradation Network, AFRIFIRENET (African Fire Research Network), Southern African Mopane Research Association (SAMRA), Biodiversity Foundation for Africa (BFA), Association for the Taxonomic Study of the Flora of Tropical Africa (AETFAT), Grassland Society of Southern Africa, Namibia Environment & Wildlife Society (NEWS) and the Botanical Society of Namibia (BOTSOC).
- I regularly reviewed articles submitted for publication in Environmental Conservation journal, Dinteria, African Journal of Range & Forage Science, Africa Journal of Ecology, African Journal of Plant Science, RAEIN Africa, IUCN, SARDC (Harare). Also reviewed few book chapters and Research Proposals submitted to various organizations (e.g. International Foundation for Science, Sweden).

- I represented the University on the Southern African Universities Association (SARUA).

Dr. Chimwamurombe

UNAM Service

- Faculty Rep to CES Board.

External Service

- Member of the Interim Bioprospecting Council of Namibia.
- Kirkhouse Trust Marama Bean Project coordinator.
- External examiner for PhD thesis at University of Cape Town.
- Reviewer for African Journal of Agricultural Research.
- Executive secretary: African Society for Edible and Medicinal Mushrooms.
- Treasurer of the Agricultural Scientific Society of Namibia.

Dr. Maass

UNAM Service

- Senate representative on Council
- Member: Executive Committee of Council
- Member: Senate
- Member: APC
- Member: PVC Academic Forum
- Member: Calendar & Timetable Committee
- Member: Staff Appointments Committee
- Member: Staff Development Committee
- Member: Meritorious Awards Committee
- Chairperson of APC Curriculum Task Force
- Chairperson of Timetable Task Force
- Member: Physical Facilities Task Force
- Member: Income Generating Task Force
- Coordinator: Relocation (Khomasdal)

External Service

- Member: Main Merger Committee (Colleges)
- Adjunct Research Faculty member: ODU, Virginia, USA
- Chairperson: Namibia Academy of Sciences Steering Committee

Dr. Mfuno

UNAM Service

- Coordinator, MSc Biodiversity Management and Research Program, joint UNAM and Humboldt University Postgraduate training Programme.
- Member of the MSc Biodiversity management and Research Admissions and Examinations Committee
- Leader. MSc Biodiversity Management and Research Programme, curriculum Review.
- Seminar Coordinator, Department of Biological Sciences.
- Acting HOD, Department of Biological Sciences, 20th August 2010 and 18-19 November 2010

External Service

- Executive Committee Member of the Windhoek Adventist Clinic Committee. Instrumental in the establishment of the now running Windhoek Adventist health Clinic, the first and only SDA health Clinic in Namibia
- Vice Chairperson, Namibia Wildlife and Environment Society (NEWS).
- Reviewer appointed by the Country Pilot Partnership Program. Reviewed research proposals for Young Professional Research
- Member, INSAKA CONSORTIUM (University of Montana, USA, UNAM (MRC), University of Kwazulu Natal, RSA, University of Copperbelt, Zambia and Monash University).

Mr. Hedimbi

UNAM Service

- Active member of the Faculty of Science committee for Fund Raising

Mr. Kaonjua

UNAM Service

- Represented the Faculty of Science at the Faculty of Agriculture Board Meetings

External Service

- Seminar presentation about the life cycle of HIV at the National Institute of Pathology (NIP)
- Acted as a judge for science students projects presented at Augustineum High School

Mr. Chinsembu

UNAM service

- Chairperson, UNAM/NEPAD steering committee on validation of traditional medicines for HIV/AIDS treatment

External service

- Reviewer, BMC Public Health
- Reviewer, African Journal of Food Science and Technology

Mr. Faul

UNAM Service

- Student registration
- Website Content Committee Member, Faculty of Science Representative and Contribute Manager

External Service

- Judge, St. Georges School Science Fair
- Reviewer for Namibia development Journal
- Organiser for and attendance of joint MET/UNAM Scientific Symposium on Biodiversity 21 May 2010
- Active participant of Knowledge Management/ Environmental Information Working Group Workshop 11 February 2010

Dr. Julies

UNAM Service

- Active member of Faculty RPC committee
- Active member of Bursary and Award Committee
- Organizing Biodiversity workshop

External Service

- Executive member (treasurer) of the Namibian Environmental Education Network
- Active member of the National task force for the year International Year of Biodiversity
- External Examiner of Phd thesis
- External Examiner of MSc thesis
- Judge at regional National Youth Symposium on Biodiversity and development

- Judge at Science fair – St Georges (24 June 2010) and the Windhoek International Schools (April 2010)
- Charity work: I provided lectures at the Windhoek International School to learners about Pollution and Waste Management. I was not paid for this work.

Dr. Shiponeni

External Service

- Reviewed a journal articles, for the Journal of Arid Environment (JAE),
- Reviewed a journal articles, for the Journal of African Range and Forage
- External examiner for Ecology 1 and 2 modules for Polytechnic of Namibia

Ms. Mukaru

UNAM Service

- Assisted with organising the launch of the International Year of Biodiversity and the Scientific Symposium on Biodiversity Conservation and Development, 21 May 2010
- Represented the Department of Biological Sciences at the National Historical Museum in Berlin from 4-21 October 2010.
- Together with Dr. E. Julies and other colleagues from Humboldt University, worked on preliminary logistics (dates, program, guest list, etc.) for a summer school to be hosted by UNAM in October 2011.
- Drafted an application for an equipment grant, for the MSc. Biodiversity Conservation and Research, during our time in Berlin.

Dr. Bock

UNAM Service

- Faculty of Science Committee of Facilities
- Chair of Department of Biological Sciences Committee on space
- Chairperson of Department Board
- Member Faculty of Science Management
- Member Faculty of Science Board
- Deputy Chair: Examination and Admissions Committee: MSc Biodiversity Management and Research Programme
- Member MRC Board
- Member of the University of Namibia Senate
- Member: UNAM PRESS
- Member UNAM Task Force for the Development of the PreVet Programme

External Service

- Board Chairperson of TUCSIN
- Judge: Windhoek International School Science and Mathematics Fair

Conclusions

Despite the challenges of resources and equipment, a very high workload on staff members and ever increasing numbers of students, the Department continued to deliver a high quality service to both our students and the community at large as well as improved on research and publications output. The slight decrease in pass rates should be evidence for the Department's call for: (i) more tutors in the Department, (ii) improvement of facilities and (iii) increased support for research and publication.