



**University of Nairobi**

**College of Biological and Physical Sciences**

**School of Computing and Informatics**

**Annual Report**

**2012**

## **1. Introduction**

The School of Computing and Informatics (SCI) was formally established in 1977 as the Institute of Computer Science whose mandate included academic as well as university ICT services. In the year 2002, and in the interest of realizing more focused management and efficiency of the two functions, ICS was split into two units i.e. ICTC and SCI. The School takes its name from the core competencies that it seeks to nurture: *Computing*, to cover the theory and science of computation and *Informatics* to exemplify the practical outworking of this theory in technology and application. The School is a regional leader in research, research and development (R&D) and advanced education in computing. It was the first to offer Bachelors and Postgraduate degrees in Computer Science in the region.

The core mission areas are: Teaching and Learning, Research, Consultancy, Research and Development and Extension Services

### **Teaching and Learning**

Our objective in teaching and learning is to produce high quality, well-rounded, sophisticated graduates who are productive, innovative, and capable of lifelong learning. Our courses are therefore developed and delivered to a high standard of educational and technological competence.

### **Research**

We aim to institute a dynamic programme of aggressive research in our core areas of competence: information systems, distributed systems and artificial intelligence, in line with national and regional priorities.

### **Consultancy**

We seek to engage productively with the public and private sector to solve problems of national or organizational economic importance in order to foster progress in our environment. A number of our academic staff members are involved in consultancy work through UNES.

### **Research and Development and Extension Services**

Based on sound research, relevant teaching, and problem-solving experience gained through consultancy opportunities, we develop training programmes, policies, methodologies and information technology software and hardware products for the local, regional and international market and increase awareness of the same in the community at large.

### **Thematic Areas**

The research mandate of the School of Computing and Informatics consists of seven research groups in the following thematic areas:

1. E-governance
2. Mobile Financial Services
3. ICT for development (ICT4D)
4. Human Language Technology (HLT)
5. Technology Supported Learning
6. Distributed systems and networks
7. E-science

## 2. Programmes Offered

<b>Programmes</b>	<b>Year Started</b>	<b>Summary</b>
B.Sc. Computer Science, Diploma in Computer Science	1993	This is the School's flagship programme. Continues to attract high caliber students. In the last two years we have admitted a second class at Kenya Science campus in addition to the class based in Chiromo campus. Curriculum has been reviewed 4 times. Most recent review in 2010.
M.Sc. Information Systems	1998	This is an evening programme. Mode of study is coursework and project. Continues to attract students with typical intake of approximately 40. Syllabus has been reviewed three times.
M.Sc. Computer Science	2006	This is an evening programme targeting applicants with first degree in Computer Science or related field. Mode of study is coursework and project. It continues to grow in popularity with typical intake of approximately 55.
M.Sc. Applied Computer Science	2003	This is a regular programme. Mode of study is one semester of coursework and a major R&D project.
Ph.D. Information Systems, Ph. D. Computer Science	2000	These are Ph.D. purely by research. The programmes have produced 8 graduates so far. Currently 13 students are registered.

## Undergraduate Enrolment

<b>Year of Study</b>	<b>Number of students</b>								
	<b>Government Sponsored</b>			<b>Privately Sponsored</b>			<b>Totals</b>		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	24	6	30	32	8	40	56	14	70
2	29	3	32	33	10	43	62	13	72
3	29	4	33	37	9	47	66	14	80
4	21	6	27	23	13	36	44	19	63
Total	103	19	122	125	40	166	228	60	285

**Postgraduate Enrolment  
Masters Programmes**

Year of study	Number of students						
	M.Sc. Computer Science			M.Sc. Information Systems			Total
	Male	Female	Total	Male	Female	Total	
1	65	10	75	32	6	38	113
2	142	21	163	69	12	81	244
Projects	18	5	23	44	9	53	76
Total	225	36	261	145	27	172	433

**PhD**

Level	Male	Female	Total
1	10	3	13
2	8	0	8
3	8	1	9
Total	26	4	30

**3. Number of Graduates**

<b>Programme</b>	<b>Number of Graduates</b>		
	<i>Male</i>	<i>Female</i>	<i>Total</i>
Diploma Computer Science	57	12	69
B.Sc. Computer Science	43	20	63
PGDip. Information Systems	-	-	-
M.Sc. Information Systems	37	8	45
M.Sc. Computer Science	31	11	42
M.Sc. Applied Computer Science	-	-	-
Ph.D.	4		4
Total	172	51	223

#### 4. Research Projects

	Title	Partners
1.	Nairobi Sizzle-social media user research	Helsinki Institute of information technology(HIT) Aalto university, Finland, Nokia and Technoserve Kenya
2.	Mobile Application Development course for Spurring Technological Growth Open Source Moodle e-learning Project	Google /UoN
3.	MIT's-Africa Internet Technology Initiative (AITI) Summer Programme	UON/MIT
4.	Software Development Subcontracting and Usability Lab	Nokia Research Center (NRC)/SCI
5.	Diasporas and Distributed Computing	UNESCO, University of Nairobi/Hewlett Packard
6.	Bournemouth/UoN Collaboration	Bournemouth University/University of Nairobi
7.	Research Commercialization	Simon Fraser University/DFAIT (Canadian Government)/SCI
8.	Liberation Technologies Program-design Thinking	Stanford University/Nokia/SCI
9.	Regional mobile Applications lab	World Bank's Infodev/UON-Google Education
10.	Research Commercialization	Simon Fraser University
11.	Utilities for the Blind and visually Impaired persons	ICT Board/Kenya society for the Blind
12.	KORDA (Kenya Oncological Research Database)	SoM/SCI
13.	Real time, Farmer-Centric M&E Platform	NSCT
14.	Developing Online Language Technology Resources	Ford Foundation/Nnamdi Azikwe University Nigeria/ Bard College NY,USA
15.	ANLoc –African Network for Localization	ZuZa Software Foundation
16.	ICT Supported Distance Education in Institutions of Higher Learning	VLIR Belgium
17.	Sizzle Virtual Center of Excellence	Aalto University/Helsinki Institute of Information Technology/UON/Beijing University/EIT labs Helsinki
18.	A model for development of secure context-aware mHealth solution for developing countries	Dean's Committee, UON

#### 5. Publications

Staff Name	Title of the Paper	Journal
Moturi, C.A.	Use of MapReduce for Data Mining and Data Optimization on a Web Portal	<i>International Journal of Computer Applications, Vol. 56 No.7</i>
Moturi, C.A.	Use of GPS with Road Mapping for Traffic Analysis	<i>International Journal of Scientific &amp; Technology Research, Vol. 1, No. 10</i>
Miriti E., Kahonge A.	Makumbi L., Miriti, E., Kahonge A.M., An Analysis of Information Technology (IT) Security Practices: A Case Study of Kenyan Small and Medium Enterprises (SMEs) in the Financial Sector	<i>International Journal of Computer Applications</i>
Miriti E., Kahonge A.	Njuguna, P.N., Kahonge A.M., Miriti, E., Web Application and GPS	<i>International Journal of Computer</i>

	Integration in Motor Vehicle Accident Detection – A Case of Nairobi, Kenya.	Applications
Miriti E., Kahonge A.	Gichira, C.M., Kahonge A.M., Miriti, E., Adoption of Open Source Software by Organizations – A Framework for Kenya.	International Journal of Computer Applications
Kahonge, Okello-Odongo	Increasing Auditability in Web Application Security	International Journal of Electrical, Electronics & Computer Systems (IJECS)
Miriti Kahonge	Analysis of information technology security practices: Case study of Kenyan SMEs in Financial sector	International Journal of Computer Applications
Kahonge Miriti	Web application and GPS Integration in motor vehicle accident detection – A Case of Nairobi, Kenya	International Journal of Computer Applications
Kahonge Miriti	Adoption of Open Source Software by Organizations – Framework for Kenya	International Journal of Computer Applications

### PhD Theses

<b>Name</b>	<b>Title</b>	<b>Supervisors</b>	<b>Date</b>
Dr. Robert Oboko	“Adaptive Learning and Metacognitive Regulation Support III- Structured problem Solving Processes”.	Prof. Peter Wagacha Dr. Wanjiku Nga'ng'a	20/07/2012
Dr. Elisha Opiyo	Multi-Agent systems Scheduler in a Dynamic Environment Using a Load Optimization Strategy	Prof. Okello-Odongo Prof. Bernard Manderick	23/07/2012
Dr. Daniel Orwa Ochieng	User-Centric Information and Communication Technology (ICT) Adoption Model for Rural Farming Communities in Kenya	Prof. T. M. Waema Dr. Jose Abdelnour Nocera	26/11/2012
Dr. Tonny Omwansa	Modeling Adoption of Mobile Money by the Poor in Nairobi, Kenya	Prof. T. M. Waema	26/11/2012

### MSc Computer Science Projects

	<b>Regno</b>	<b>Names</b>	<b>G</b>	<b>Title</b>	<b>Supv</b>
1.	P58/70767/2008	KURIA JANE NYAMBURA	F	Mobile-Learning(M-Learning) Implementation In Kenyan Primary Schools	Dr Oboko
2.	P58/8918/2006	KAMAU SHARON WANJIRU	F	A Contextual Weather And Climate Broadcasting System For Mobile Phone Users In Western Kenya	Dr Orwa
3.	P58/72927/2009	ABUODHA LUCY ATIENO	F	Agent Based Learning Support System	Dr Oboko
4.	P58/73002/2009	GATHIA ISAAC GACHUGU	M	Rapid Business Application Development Framework	Prof Omwanga
5.	P58/62274/2010	KINUTHIA JORAM NDUATI	M	A model for the Automation of the Dairy Supply Chain in Kenya	Prof Wainganjo
6.	P58/72924/2009	WANYAMA EDWIN NGERO	M	Open Source Spell Checker For Luhya - Wanga Dialect	Prof Wainganjo
7.	P58/70475/2008	OBARE STEPHEN OTIENO	M	Performance Evaluation Of Scalable Ip-Address Lookup For Ipv6	Mr Ayienga
8.	P58/9084/2006	SIDEDE VINCENT ODHIAMBO	M	A Dynamic E-Commerce Model Using Multi Agent Systems	Dr Opiyo
9.	P58/70843/2008	MURERWA EMILY GAKII	F	Knowledge Management In Organizations; A Prototype	Dr Opiyo
10.	P58/8950/2006	TOO EDNA CHEBET	F	Sms(Short Message Service)-Based Livestock Disease Diagnosis Expert System	Mr Muchemi
11.	P58/73285/2009	NDUNG'U BONIFACE KARIUKI	M	Dynamic Load balancing Middle-ware For Heterogeneous Database Clusters	Dr Omwansa
12.	P58/70472/2008	ADONGO MICHAEL ONDEJA	M	Automated Multiagent-Based Interoperator Billing And Payment System.	Mr Ayienga
13.	P58/73620/2009	ONYANGO PASCHAL ODHIAMBO	M	Maize Crop Growth Monitor Through Reinforced Learning Agents	Dr Oboko
14.	P58/72874/2009	WAHU LEONARD GICHUHO	M	A Model For Location Based Services Application Design	Dr I Orwa
15.	P58/70489/2008	MULONZYA PAUL KALOKI	M	Conceptual Modeling Of Malware Spread In Computer Networks	Mr Ayienga
16.	P58/61495/2010	BITTA FREDRICK OBIERO OKOTH	M	A Multi-Agent Model For User Access Rights Review and Audit	Mr Moturi
17.	P58/61592/2010	OBUHUMA JAMES IMENDE	M	A GPS Server With Data Mining And Road Mapping	Mr Moturi

18.	P58/61616/2010	MAIYO SILAS KIBET	M	Use of MapReduce Technique for Data Mining: Case of Teachers' Web Portal	Mr Moturi
19.	P58/61543/2010	CHEGE KENNEDY RUEWEL MUCHAI	M	Development of an Optimal Bank Teller Staffing Model based on Customer Trends	Mr Muchemi
20.	P58/61712/2010	IKUNYUA EDWIN KIMATHI	M	A Named Entity Relation Extractor for Unstructured Text Incident Reports	Mr Muchemi
21.	P58/74282/2009	MULUNDA CHRISTINE KAGONYA	F	Using Genetic Algorithm For Image Steganography	Prof Wainganjo
22.	P58/61691/2010	NDEKE ANGELA MBULA	F	Use espeak on Android and PC for Diary Farming Apps using Swahili Language	Prof Wainganjo
23.	P58/70504/2008	KIRUI RONALD KIPYEGON	M	Agents Based Control And Coordination For A Distributed Wireless Sensor Network To Maximize Field Life.	Mr Ayienga
24.	P58/62085/2010	MULONGO ABIUD WAKHANU	M	Energy Efficient Communications in Ad Hoc Wireless Sensor Networks for Environmental Monitoring	Mr Ayienga
25.	P58/73083/2009	KIVINDA JUSTINA MWIKALI	F	Multiagent based Reporting and Registration of Deaths in Kenya	Dr Opiyo
26.	P58/61814/2010	MWANGI ZACHARIAH MUNYORO	M	Crop Health Feedback System For Farmers	Dr Opiyo
27.	P58/73013/2009	YOGO JAMES ORIWO	M	Mobile Agents Intrusion Detection System for Cloud Computing IaaS	Dr Opiyo
28.	P58/73125/2009	LIMO PENINAH JEPKEMBOI	F	Student Perception on a web-Based Resource Access from Cloud computing using mobile devices	Dr Opiyo
29.	P58/8961/2006	MAINA SOLOMON THUO	M	Learning Functions For Job Scheduling In Computational Grids	Dr Opiyo
30.	P58/72972/2009	KANG'ETHE ALEX NJORGE	M	Adoption And Use Of Enterprise Reporting Systems At Mt. Kenya Bottlers Using Actuate And Birt	Dr Omwansa
31.	P58/61426/2010	NJUGUNA PETER NGERU	M	GPS Based Motor Vehicle Accident Detection and Reporting Solution	Mr Mwaura
32.	P58/62440/2010	KAYEMBE SAMSON MUDIMBI	M	Human posture recognition and good posture recommendation	Mr Miriti
33.	P58/70491/2008	KARANJA EDWIN NJUGUNA	M	Questionnaire processor.	Mr Miriti
34.	P58/61647/2010	KING'OINA JANET MARANGA	F	Strategic Interventions that are needed to assist the Kenya Government move towards the development and use of Open Source applications and creative commons licensed open content.	Dr Nganga
35.	P58/61467/2010	ONSAKIA DAVIS MAUTI	M	A business model for encouraging citizens to open up their personal data for anonymous statistical use	Dr Nganga
36.	P58/61858/2010	NGOIYA HUMPHREY KAMUYU	M	A seamless device independent automated service delivery layer for public application	Dr Nganga
37.	P58/70982/2008	CHOGE JOSPHAT KIPCHUMBA	M	Online Neuro-based Credit Evaluation Model using Artificial Neural Networks and Genetic Algorithm	Dr Oboko
38.	P58/61699/2010	MARUBE ABEDNEGO MOGIRE	M	Content Specific Android Framework To Support Formal And Informal Context Aware Ubiquitous Learning.	Dr Oboko
39.	P58/61969/2010	ADEDE CHRISGONE OTIENO	M	Content Specific Android Framework To Support Formal And Informal Context Aware Ubiquitous Learning.	Dr Oboko
40.	P58/62236/2010	CHEMWENO KIPROTICH	M	Agricultural Markets Monitoring System in Kenya	Dr Oboko
41.	P58/61424/2010	AYOMA MERCY ACHIENG	F	Data Warehousing through multi-agent systems in credit card business	Dr Oboko
42.	P58/61780/2010	KANGETHE MICHAEL MAIGWA MARTIN	M	Surveillance strategy using a cross variation of backpropagation and KNN for radio based networks	Dr Oboko

### MSc Information Systems Projects

	Regno	Names	G	Title	Supv
1.	P56/70521/2007	ITERE BENSON MAINA	M	Kenya universities framework for e-waste management	Mr Ruhiu
2.	P56/P/8298/2004	OBURE CLEMENT ODEKA	M	Develop a database system model that would enhance food distribution in Kenya	Mr Muchemi
3.	P56/P/9303/2001	KYENGE B. M.	M	Implementation of a decision support system in examination processing	Mr Moturi
4.	P56/7549/2006	MBUGUA PURITY NJERI	F	Internet Child Safety	Mr Mwaura
5.	P56/P/8344/2003	KIHUHA CYRUS KAMAU	M	Distributed System Firewall Intrusion Monitoring And Reporting Using E-Mail And Sms.	Mr Mwaura
6.	P56/70022/2007	ODHOCH JACK OTIENO	M	Conceptual Framework For Accessible Effective Devolved Funds Information To Citizens: A Case Study Of Kenya Constituencies Development Fund.	Dr Orwa

7.	P56/71224/2008	WAMBUGU GEOFFREY MARIGA	M	Testing Validity of Wausi's Hybrid Framework of Implementation of Information Systems Innovations: Case of Kenyan Higher Education Institutions	Dr Wausi
8.	P56/60187/2010	IRERI DAISY MBUCU	F	Weather Monitoring Systems Using Wireless Sensor Networks.	Mr Moturi
9.	P56/60217/2010	ATIENO LOICE VICTORINE	F	Framework For Enhancing Information Availability And Access At Grass-Root Level	Mr Moturi
10.	P56/61310/2010	GAITHO PETER NJOGU	M	Framework For Implementation Of Electronic/Continuous Auditing System In The Public Sector (A Case Study Of The Kenya National Audit Office-Kenao)	Mr Moturi
11.	P56/72444/2008	KARUGU GODFREY CHEGE	M	A Model IT Contingency Plan for a University: Case of UoN	Mr Moturi
12.	P56/P/8294/2004	EMURUGAT ALFRED	M	Data Warehousing In Public Universities	Mr Moturi
13.	P56/61303/2010	MBITHI NICHOLAS MULEI	M	Framework For Securing An Organization'S Information Technology (IT) Resources In The Public Sector	Dr Orwa
14.	P56/61307/2010	KINGARA JOHN GITHAIGA	M	A Framework For Post-Implementation Evaluation Of Information Systems: The Case Of Ifmis In Kenya	Dr Orwa
15.	P56/61308/2010	OGOLA GEORGE ODERO	M	Exploring Factors Affecting Kenya'S Tax Practitioner'S Usage And Adoption Of Online Tax Filing And Payment System	Dr Orwa
16.	P56/71105/2008	WANGANGA GICHUHI	M	A Framework For Integrating Ict In The The Teaching And Learning Process In Primary Teacher Training Colleges In Kenya.	Mr Ogutu
17.	P56/61305/2010	MUTUA JESSE NGUGI	M	A Framework For Evaluating Mobile Learning (M-Learning) Systems In Kenya	Prof Waiganjo
18.	P56/78868/2009	RONOH JONATHAN	M	Factors Affecting Adoption Of Voice Over Internet Protocol (Voip) And Other Converged Ip Services In Kenya. (A Case Study Of Telkom Kenya Ltd)	Prof Omwenga
19.	P56/P/8144/2003	MAINGI JULIUS KAIRITHIA	M	Web Based Genetic Algorithm Mediated Polytopes Optimization System.	Mr Muchemi
20.	P56/60449/2010	NDITHI HENRY KIVUVA	M	A Framework For Water Quality Management Using Geospatial Information Systems (Gis) Data Mining: Case Of Nairobi River	Mr Mwaura
21.	P56/7525/2006	GICHIRA CHARLES MACHARIA	M	A Framework For Adoption of Open Source Software (OSS) by Organizations in Kenya	Mr Mwaura
22.	P56/60210/2010	MAKUMBI LEONARD KAVEKE	M	An Analysis Of Information Technology (It) Security And The Adoption Of Security Policies: A Case Study Of Kenyan Small And Medium Enterprises (Smes).	Mr Miriti
23.	P56/61311/2010	KOMBE HUSSEIN MARIKA	M	Computerized Auditing In Public Sector Enterprises: A Study Of Kenya Government National Audit Office (Kenao)	Dr Oboko
24.	P56/P/7295/2005	KATHALE PAUL MUTINDA	M	Impact Of Quality Of Web Service On Consumer Perception Toward Adoption Of E-Service Delivery Technologies Among Online Kenyan Consumers	MS Ronge
25.	P56/60147/2010	RABALA PAUL O. H.	M	A Mobile Phone Supported Fish Marketing Solution For East African Community: Case Study Of Muhuru Bay In Kenya And Kironwe In Tanzania.	Mr Mburu
26.	P56/60216/2010	MUTUA CECILIA WAVINYA	F	Intelligent Mobile-Based Advertising: Assessing The Readiness Of The Kenyan Market	Mr Mburu
27.	P56/60663/2010	GISIORA DICKSON OCHOKI	M	Disaster Preparedness And Business Continuity Planning, The Case Of The Integrated Financial Information System (Ifmis) Used By Government Departments In Kenya.	Mr Mburu
28.	P56/71117/2008	MBUNYA TITUS NYAKUNDI	M	Application Of The Theory Of Planned Behavior Framework In Assessing The Factors That Influence The Usage Intention Of A Mobile Phone To Access Internet In Kenya	Mr Ruhiu
29.	P56/71908/2008	MUNGA ALPHONSE KINGORI	M	Adoption of mobile Internet in Kenya: An empirical study	Mr Ruhiu
30.	P56/P/7631/2005	NJAGI ANNE WANJIRU	F	Towards A Knowledge Management/Repository Framework: Case Tsc	Mr Ruhiu
31.	P56/70488/2007	CAROLINE WARUI	F	An intelligent backoff scheme for IEEE 802.11 wireless LAN	Mr Ayeinga
32.	P56/P/9110/2001	NDAMBUKI CHRIS	M	Software Metrics and Measurements and their Application in the Software Process--A case study of the Kenyan Software Industry	Dr Orwa
33.	P56/P/8259/2001	KAMUNYA SAMUEL MUTHEE	M	Mobile agents in network Management	Mr Ayeinga
34.	P56/8278/2001	GITHEHU KINU	M	Enterprise Application Integration Using Web Services	Mr Mwaura
35.	P56/70289/2007	GICHUHI JOSEPH	M	Inter-Carrier Mobile Content Management Platform (A Case Study For The Kenyan Mobile Sector)	Dr Omwansa

36.	P56/61306/2010	KURIA DANIEL NYAGAH	M	The Digital Divide: Degree Of ICT Accessibility By The Visually Impaired.	Mr Muchemi
37.	P56/70452/2007	SIGEI DANIEL KIPNG'ETIDGE	M	Enterprise Information Security Architecture: A Survey Of The Prevalent Models	Mr Mwaura
38.	P56/61070/2010	KAMAU PAUL CHEGE	M	Forecasting Foreign Exchange Rates	Mr Miriti
39.	P56/7362/2006	OTIENO HAGGAI BENJAMINE	M	Use of appropriate ICTs in attaining food security in Kenya	Mr Moturi
40.	P56/71051/2008	OLAL WILFRED OCHOLAH	M	A Framework For e-Service Development For Government Of Kenya	Mr Moturi
41.	P56/60540/2010	ISHMAEL NICODEMUS AKETCH	M	Evolving Role of eCRM In Telecommunication Companies A Case Of: Orange Kenya	MrOgutu
42.	P56/P/7866/2002	MUTUA JOYCE	F	text mining user defined data from document repositories	Mr Muchemi
43.	P56/P/7779/2005	OROKO LOIS KERUBO	F	Transformational ITGovernance Case Study Of Mobile Government Adoption In Kenya	Mr Ruhiu
44.	P56/P/7937/2004	NDIGIRIGI ALEXANDER NDUNGU	M	E-Learning Development in Kenya An Empirical Analysis of Critical Factors that Affects Learners' Satisfaction in E-Learning	Dr Oboko
45.	P56/60593/2010	NDEGWA STANLEY KIAMA	M	A Model For Assessing Curriculum Implementation, Monitoring And Evaluation In Secondary Schools	Mr Mburu

## 6. Conferences

### Conference Paper Presented

Staff Name	Title of the Paper	Place	Date
Dr. Omwenga	A Framework for Distributed Learning Objects Repository in Developing Countries		August, 2011
Dr. Omwenga	Modeling a Computer-Mediated Learning Infrastructure: Concepts, Principles & Implementation Requirements.		2011
Dr. Waiganjo	Exploring the SAWA Corpus: Collection & Deployment of a Parallel Corpus English-Swahili		2011
Dr. Waiganjo	"Livestock Diagnostic Support System for Rural Pastoralists Communities in Kenya"		11 <sup>th</sup> August, 2011
Prof. Waema T. M.	Local Governance and ICT in Africa: Case Studies and Guidelines for Implementation and Evaluation		2011
Prof. Waema T. M.	Development Outcomes of Internet and Mobile Phones use in Kenya		2011
Mr. C. A. Moturi	A Framework for Knowledge Management of Wildlife Research in Kenya	AIBUMA 2011 Conference	25 <sup>th</sup> – 26 <sup>th</sup> Aug., 2011
Mr. C. A. Moturi	Successful Implementation of Digital Village Projects: A Factor to Economic Empowerment at the Community Level - 2012	3rd African International Business and Management Conference, Nairobi, Kenya	
Prof. Waema	ICT Indicators in Higher Education: towards an E-Readiness assessment Model	Ubuntu Net Connect 2011	Nov 24-25
Prof. T.M. Waema	Policy implications of the Relationship Between ICT Access and Usage and Well-being: A case study of Kenya in African Journal of Science, technology, Innovation and Development(AJSTID),3(3), 31-62		Dec 2011
Prof. T.M. Waema, D.O. Ochieng and Onsomu, JO	Mobile Interfaced Crops Diagnosis, Expert System(MICDES); A Case for Rural Kenyan Farmers in Int. J. Services, Economics and Management, Vol.4, No. 1, pp4-26	Mobile Interfaced Crops Diagnosis	Oct 2011

### Conference Attendance

Staff	Conference	Date	Place
Mrs. Muthoni Masinde, S.N. Mburu, P. Rabala, R. Oboko	Workshop On Applications Of Wireless Sensor Networks For Weather Monitoring In East Africa	6 <sup>th</sup> – 8 <sup>th</sup> July, 2011	SCI Labs
Dan Orwa, P. Waiganjo, S.N. Mburu, R. Oboko	Liberation Technologies- Design thinking	18 <sup>th</sup> – 22 <sup>nd</sup> July, 2011	SCI Labs
Prof. Okello Odongo	Workshop IEEE by LEWA	July, 2011	KICC
Michael Anindo	KeFA Grant Proposal writing Course	1 <sup>st</sup> – 12 <sup>th</sup> August, 2011	SCI Labs
E.A Miriti	UNITID fellowship Training- Information Security & audit	15 <sup>th</sup> – 19 <sup>th</sup> August, 2011	SCI Labs
Mr. Christopher Moturi	AIBUMA 2011 Conference	25 <sup>th</sup> – 26 <sup>th</sup> August, 2011	KICC, Nairobi

Dr. Omwenga	Training on ICT in Education	August, 2011	Science Boardroom
T. Omwansa	Conference & Training	12 <sup>th</sup> – 16 <sup>th</sup> Sept, 2011	Nigeria
Dr. P. Waiganjo	Sizzle International Workshop	17 <sup>th</sup> – 18 <sup>th</sup> August, 2011	Helsinki, Finland
Dr. Ng'ang'a	First regional workshop on Electronic Healthcare & Telemedicine	28 <sup>th</sup> – 29 <sup>th</sup> July, 2011	K.I.E.
Dr. Waiganjo	First regional workshop on Electronic Healthcare & Telemedicine	28 <sup>th</sup> – 29 <sup>th</sup> July, 2011	K.I.E.
T. Omwansa	Scientific Communication & Publishing (Training Centre in Communication)	15 <sup>th</sup> August, 2011	Chiromo Campus
Mr. Joseph Ogutu	Curriculum writing Workshop for Masters in Computer Education	14 <sup>th</sup> – 16 <sup>th</sup> July, 2011	Strathmore University
Prof. Okelo-Odongo	Workshop for the Academic Division	4 <sup>th</sup> – 7 <sup>th</sup> August, 2011	Midland Hotel - Nakuru
Stephen N. Mburu	Workshop on Applications of Wireless Sensor Networks for Weather Monitoring In East Africa	6 <sup>th</sup> – 8 <sup>th</sup> July, 2011	SCI Labs
Prof. Okelo-Odongo	BPO/ITES Workshop	21 <sup>st</sup> – 22 <sup>nd</sup> Sept 2011	Silver Springs Hotel
Prof. T.M. Waema	Research Methodology workshop	18-19 Oct, 2011	Addis Ababa University
Prof. T.M. Waema	Expert Group meeting on Science, Technology and Innovation policy Report on Africa	17-19 Oct, 2011	Addis Ababa
Prof. T M waema	Facilitated a Strategic Planning Workshop and reviewed the strategic plan of the College of agriculture and Veterinary services, University of Nairobi	3-4 Nov 2011	KCB Leadership Training Center, Karen
Mr.Ogutu	LIWA-ICT sector Borad Conference	24-25 Nov, 2011	Laico Regency Hotel, Nairobi
Ms Muthoni Masinde	ITU Green ICT Application Challenge	October 2011	Rome, Italy
Ms P. Wangunyu	Research and grant proposal writing workshop	Oct,2011	Chiromo
Mr. M. Anindo	Python African Tour	Oct. 24-28, 2011	SCI Labs
Mr. S. Mburu	Python African Tour	Oct. 24-28, 2011	SCI Labs
Dr. Wanjiku Ng'ang'a	Python African Tour	Oct. 24-28, 2011	SCI Labs
Mr. R. Oboko	Python African Tour	Oct. 24-28, 2011	SCI Labs
Ms. Christine Ronge	Python African Tour	Oct. 24-28, 2011	SCI Labs

### Conferences Hosted

Conference	Date	Venue
Workshop On Applications Of Wireless Sensor Networks For Weather Monitoring In East Africa	6-8 July, 2011	SCI Labs
Liberation Technologies- Design thinking	18- 22 <sup>nd</sup> July, 2011	SCI Labs
UNITID fellowship Training- Information Security & Audit	15-19 August , 2011	SCI Labs
KEFA Grant Proposal writing Course	1-12 <sup>th</sup> August, 2011	SCI Labs

Python African Tour	Oct24-28,2011	SCI Labs
emobilis	Oct 2011	SCI Labs
TCC - Training on Proposal writing and communication	Dec 2011	SCI Labs

## 7. Collaborations

	<b>Title</b>	<b>Partners</b>	<b>Staff Involved</b>
	Nairobi Sizzle-social media user research	Helsinki Institute of information technology(HIT) Alto university, Finland, Nokia and Technoserve Kenya	Dr. Waiganjo/Mr. Orwa
	Mobile Application Development course for Spurring Technological Growth Open Source Moodle e-learning Project	Google /UoN	Mburu/Prof.Okelo-Odongo
	MIT's-Africa Internet Technology Initiative (AITI) Summer Programme	UON/MIT	DR.Waiganjo/Mburu (On-going)
	Software Development Subcontracting and Usability Lab	Nokia Research Center (NRC)/SCI	Dr. Waiganjo/Orwa/Oboko/Okelo-Odongo (On-going)
	Diasporas and Distributed Computing	UNESCO, University of Nairobi/Hewlett Packard	Prof. Okelo Odongo/Opiyo/Ayienga, Miss Ronge (On-going)
	Bournemouth/UoN Collaboration	Bournemouth University/University of Nairobi	SCI Staff (On-going)
	Research Commercialization	Simon Fraser University/DFAIT (Canadian Government)/SCI	Prof. Waema/Muchemi (on-going)
	Liberation Technologies Program-design Thinking	Stanford University/Nokia/SCI	Dr waiganjo/Orwa (On-going)
	Regional mobile Applications lab	World Bank's Infodev/UON-Google Education	Prof. Okelo-Odongo/Dr. Waiganjo/Orwa (On-going)
	Research Commercialization	Simon Fraser University	Prof. Waema (On-going)
	Utilities for the Blind and visually Impaired persons	ICT Board/Kenya society for the Blind	Dr.waiganjo (On-going)
	KORDA (Kenya Oncological Research Database)	SoM/SCI	SCI Staff (On-going)
	Real time, Farmer-Centric M&E	NSCT	Dr. Nganga/Wangunyu

	Platform		(On-going)
	Developing Online Language Technology Resources	Ford Foundation/Nnamdi Azikwe University Nigeria/ Bard College NY,USA	Dr. Ng'ang'a/Dr. Waiganjo/Dr. Omwenga (On-going)
	ANLoc –African Network for Localization	ZuZa Software Foundation	Dr Waiganjo/Dr. Nganga (On-going)
	ICT Supported Distance Education in Institutions of Higher Learning	VLIR Belgium	Dr. Omwenga <b>(New)</b>
	Sizzle Virtual Center of Excellence	Aalto University/Helsinki Institute of Information Technology/UON/Beijing University/EIT labs Helsinki	Dr. Wagacha <b>(New)</b>

## 8. Consultancies

Title	Client	Staff Involved
UNITID Fellowship Health Informatics	Centre for Disease Control (Training)	Dr. Nganga/ E.A. Miriti
E-readiness assessment and accession for 50 Universities in East African Region (2008 – 2011)	50 Universities in East African Region	Prof. Waema
Grants Funds Management Strategic Plan	University Management & Stakeholders	Prof. Waema
Kenya Centre for Excellence Partner Institution for ITES/BPO	ICT Board	Prof. Okelo-Odongo/Dr. Wausi/Dr. Nganga
Development of Curriculum	Directorate of e-Government	Prof. Okelo-Odongo//Dr. Nganga/Mr. Moturi/Dr. Oboko

## 9. Student Mentorship Activities

Activity	Description	Participants
Competitions	Garage 48	Catherine Mahugu/ Kelvin Kimani
	Global Social Entrepreneurship Competition - Foster School of Business, University of Washington, Seattle, USA	Catherine Mahugu
	Rice University Business Plan Competition, Texas, USA	Catherine Mahugu
	Ignite Hackathon Nokia Competition	8 students
	Wellcome Sanger Prize Competition	Andrew Ntwiga
	NASA Space Apps Challenge	Boniface Muganda, Nyongesa Telewa
	Mobile Garage	Kichitaro Shiojiri
	Tandaa Digital Content Grant	Brian Kinyua
Boot Camps	GSMA Mobile Health University Challenge, Cape Town	Evelyn Kavata Mwango, Nancy Saruni
	Google Startup Weekend	43 students
	Mobile Garage	12 students

	Nailab Start-Up Weekend	17 students
	Junior Achievement Kenya	18 students
	Science Hack Day	Boniface Muganda , Peter Kamiri, Samuel Kariu, Michael Kimathi, Bernard Banta
Student Interactions	Round Table Discussion	20 students and 4 academic staff
	NUCOMSSA Fun Day	36 students
	Student-Student Interaction	100 students
Recruitment Drives	Techno Brain	60 students
	Delloitte	500 students from across the University
	Safaricom Internship Programme	Prof Lucy Irungu, DVC (RPE) 300 student from SCI and School of Engineering
High Tech SME Nurturing (contributed to CBPS PC)	SasaAfrica Social Entrepreneurship	Catherine Mahugu
	Deveint.com	Antony Nandaa
	Tandaa Digital	Brian Kinyua
industrial attachment	Students undertook internships in various partner institutions including Nokia/Sizzle Project, Knowledge for Life, Google Kenya, Equity Bank, Equity Bank, KenGen, Aimsoft, NEMA, MoHEST,	69 students
Skill Training	Knowledge for Life – K4Life	40 students
Conferences	Africa Mobile Money Research Conference	Ernest Omolo and Billy Njoka Njoroge were involved as assistants
Ambassadors	Google Ambassadors	Paul Njeru, Sylvia Karanja
Alumni Involvement	Judith Owigar and Linet Kwamboka were actively involved in many mentorship activities	
Invited Speakers	Avinash Ramtohum, Cluster Leader, Oracle, Africa	All students
	Annie Njenga, mLab	All students
	ESRI East Africa	All students

## 10. Human Resource

<i>Designation/Grade</i>	<i>No of Staff</i>
Professor	1
Associate Professor	3
Senior Lecturer	4
Lecturer	12
Tutorial Fellow	4
Assistant Registrar	0
Senior Administrative Assistant	1
Admin Assistant	0
Senior Secretary	1
Secretary	1
Technologists	6
Library Assistant	1
Office Assistant	1

Receptionist/Telephone Operator	2
Cleaners	2
Driver	1