



University of Nairobi

College of Biological and Physical Sciences

School of Computing and Informatics

Annual Report

2016

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 is carried out under three research groups in the following thematic areas:

1. ICT for development (ICT4D)
2. Computational Intelligence
3. Distributed Computing

2. Programmes Offered

Programmes	Year Started	Summary
B.Sc. Computer Science, Diploma in Computer Science	1993	This is the School's flagship programme. Continues to attract high caliber students. We admit 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. The BSc. Curriculum is currently under review
M.Sc. Applied Computing	2013	This is an evening programme targeting applicants with Computer Science or Information Technology or any related discipline. Mode of study is coursework and project.
M.Sc. Computational Intelligence	2013	This is an evening programme targeting applicants with first degree in Computer Science or related Engineering, Mathematics or Statistics discipline. Mode of study is coursework and project.
M.Sc. Distributed Computing Technology	2013	This is an evening programme targeting applicants with first degree in in Computer Science or a related discipline (e.g. Engineering, Mathematics and Physics). Mode of study is coursework and project.
M.Sc. Information Technology Management	2013	This is an evening programme targeting applicants with first degree in Computer Science or Information Technology or a related discipline. Mode of study is coursework and project.
M. Sc Information Technology Enabled services	2016	This is an evening programme targeting applicants with any first degree or Holders of any Postgraduate degree or diploma. Mode of study is coursework and project.
Ph.D. Information Systems, Ph. D. Computer Science	2000	These are Ph.D. purely by research. The programmes have produced 22 graduates so far. Currently 40 students are registered.

3. Undergraduate Enrolment

Year of Study	Number of students								
	Government Sponsored			Privately Sponsored			Totals		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	23	4	27	72	18	90	95	22	117

2	21	3	24	37	9	46	58	12	70
3	18	4	22	14	2	16	32	6	38
4	26	10	36	18	5	23	44	15	59
Total	88	21	109	141	34	175	229	55	284

4. Postgraduate Enrolment

Masters Programmes

Year of study	Number of students												Total
	M.Sc. IT Management			M.Sc. Applied Computing			MSc Computational Intelligence			MSc Distributed Computing Technology			
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	
1	14	48	62	4	12	16	1	21	22	7	32	39	139
2	14	51	65	0	0	0	0	0	0	1	38	39	104
Total	28	99	127	4	12	16	1	21	22	8	70	78	243

PhD

Level	Male	Female	Total
1	4	1	5
2	27	3	30
3	4	1	5
Total	35	5	40

International Student Component

Reg. Number	Surname	Other Names	Country
P80/50081/2015	Kante	Macire	Mali
P15/43771/2017	Maiki	Mambia Emanuelli	Tanzania

5. Number of Graduates

DEGREE PROGRAMMES	Female	Male	Total
Diploma in Computer Science	4	38	42
BSc in Computer Science	14	51	65
MSc in Information Systems	1	9	10

MSc in Computer Science	1	12	13
M.Sc. IT Management	14	32	46
MSc Computational Intelligence	0	5	5
MSc Distributed Computing Technology	4	21	25
Ph.D. Information Systems	0	5	5
Ph. D. Computer Science	0	3	3

6. Research Projects

Title	Partners
UN Habitat bike share project	UN Habitat
Towards a Centre of Excellence for Distributed Computing and Modelling: A UNESCO-HP Brain Gain Project	UNESCO, HP
ICT Supported Distance Education in Institutions of Higher Learning	VLIR
Cloud Strategy	Microsoft
Developing Online Language Technology Resources	Ford Foundation/Nnamdi Azikwe University Nigeria/ Bard College NY,USA
Software Development Subcontracting and Usability Lab	Nokia Research Center (NRC)/SCI
Kenya Innovation Forum	ICT Authority
Liberation Technologies Program-design Thinking	Stanford University/Nokia/SCI
Regional mobile Applications lab	World Bank's Infodev/UON-Google Education
Research Commercialization	Simon Fraser University/DFAIT (Canadian Government)/SCI
Afyainfo Project	USAID, through Abt Associates.
Nairobi Sizzle-social media user research	Helsinki Institute of information technology(HIT) Alto university, Finland, Nokia and Technoserve Kenya
Digital Matatus	Rockefeller Foundation,Google
Forgaty	University of Washington/UON
Mobile phone-based patient record system	Swedish Institute and Vetenskapsrade
HIV Capacity building (UNITID)	UNITID
Technical Support for MoH	MoH
Community-based Adaptation conference grant, 2015	IDRC
Application on ICTs for Water Management under Changing Climatic Conditions: Research Awards Program Project	IDRC
Baseline survey of engineering departments in 12 universities in Kenya	Kenya Education Network (KENET)
Research Grants Innovative Application of ICTs in addressing water –related impacts of climate change (ICTCCW)	Asian Management & Development Institute (AMDI), VIETNAM
Mobile Application development course for Spurring Technological Growth Open Source Moodle e-learning Project	Google /UoN
Liberation Technologies program-design thinking	Stanford University, Nokia
Kenya Centre of Excellence partner Institution for ITES/BPO Industry – Technology Project	Kenya ICT Authority with funding from World Bank, IBM, CAPITA,KeMU consortium
Labour Market analysis to assess possibilities of creating employment opportunities for poor and vulnerable populations... in Ghana, Kenya and South Africa	University of KwaZulu-Natal; Rockefeller Foundation

7. Publications

	Authors	Title of the Paper	Journal	PERIOD
1	Christopher Chepken	The Absence of One-Size-Fits- in the Day Labour Organizations ICT4D Designs	IGI Global	November 2016
2	Joseph Kaibui Gitau, Stephen Mburu	Service Oriented Architecture Model for Integration of E-government Systems in Kenya	American Journal of Information Systems	October 2016
3	John M. Kirimi, Christopher A. Moturi	Application of Data Mining Classification in Employee Performance Prediction	International Journal of Computer Applications	October 2016
4	Fullgence Mwachoo Mwakondo, Lawrence Muchemi, Elijah Isanda Omwenga	Trends towards Predictive Mapping of Graduates' Skills to Industry Roles: A Case Study of Software Engineering	British Journal of Education, Society & Behavioural Science	September 2016
5	Kiplagat Wilfred Kiprono, Elisha Odira Abade	Comparative Twitter Sentiment Analysis Based on Linear and Probabilistic Models	International Journal on Data Science and Technology	August 2016
6	John M. Kirimi, Christopher A. Moturi	Application of Data Mining Classification in Employee Performance Prediction	International Journal of Computer Applications	July 2016
7	David Gitonga Mwathi, William Okello-Odongo, Elisha Opiyo	Algorithm for Selection of EAP Authentication Method for Use in A Public WLAN	Journal of Emerging Trends in Computing and Information Sciences	July 2016
8	David Gitonga Mwathi, William Okello-Odongo, Elisha Opiyo	Selection of EAP Authentication Method for use in a Public WLAN: Implementation Environment Based Approach.	In International Research Journal of Computer Science (IRJCS).	2016
9	Mwangi Caroline Wambui, Abade Elisha	Identity Theft Mitigation in Kenyan Financial Sectors (SACCOs): Handwritten Signature Verification	International Journal of Computer (IJC)	July 2016
10	Lawrence Muchemi, Gregory Grefenstette	Rapid Induction of Multiple Taxonomies for Enhanced Faceted Text Browsing	International Journal of Artificial Intelligence and Applications (IJAIA)	July 2016
11	Alfayo O. Adede, William Okello -Odongo, Christine K. Mulunda	Data Integrity and Confidentiality in Mobile Phone Based Cyber Foraging System	International Journal of Computer and Information Technology	July 2016
12	Abiud Wakhanu Mulongo, Elisha T. Opiyo Omulo, Elisha Abade, William Okello Odongo, Bernard Manderick	SLUM: Service Layered Utility Maximization Model to Guide Dynamic Composite Webservice Selection in Virtual Organizations	Computer Science and Information Technology	2016
13	Abiud Wakhanu Mulongo, Elisha Abade, Elisha T. O. Opiyo, William Okello Odongo, Bernard Manderick	Superlinear Relative Speedup of the Service Layered Utility Maximization Model for Dynamic Webservice Composition in Virtual Organizations	International Journal of Computer and Information Technology	July 2016
14	Ibrahim Otieno, Elijah Omenga	Towards the development of a Citizen-centric Framework for Evaluating the impact of E-government: A Case study of Developing Countries	Journal of Emerging Trends in Computing and Information Sciences	April 1, 2016
15	F M Kwale, P W Wagacha and A Mwaura	A Text Clustering Comparison Methodology	International Journal of Computer Applications	April, 2016
16	Stephwn o'O. Owuonda, Dan Orwa	Cloud Computing Governance Readiness Assessment: Case of Local Airline Com	International Journal Of Applied Information systems	April, 2016
17	Fullgance Mwachoo Mwakondo, Dr. Lawrence Muchemi, Prof Elijah Isanda Omwenga	Proposed Model for Predictive Mapping of Graduates Skills to Industry Roles Using Machine Learning Techniques	International Journal of Engineering And Science	April, 2016
18	Elijah I Omwenga, Christopher M Gakuu, Robert O Oboko, Harriet J Kidombo, Joyce K Mbwesa, Peter W Waiganjo, Amo Libotton	Quality Indicator Framework for Assessing DEel Programs in Kenya: A Technological and Educational Function Parameters Approach	Journal of Emerging Trends in Computing and Information Sciences	April 2016

19	Osongi Felix Agik, William Okelo-Odongo, Elisha T.O.Opiyo, Bernard Manderick	Agent-based Model of a Responsive Network Monitoring System for Internet Service Providers	International Journal of Computer and Information Technology (IJCIT)	March 2016
20	E. Muuro Maina, Peter W. Wagacha, Robert Oboko	Enhancing Active Learning Pedagogy through Online Collaborative Learning	IGI Global	February 2016
21	Benson Kituku, Lawrence Muchemi, Wanjiku Nganga	A review on Machine Translation Approaches	TELKOMNIKA Indonesian Journal of Electrical Engineering	January 2016
22	Ishmael Obonyo, Elisha Opiyo, William Okelo (2016).	Open source Business Intelligence Systems: A Case of The Technical University of Kenya.,	Lambert Academic Publishing	October, 2016.
23	Gabriel Kamau, James Njihia, Agnes Wausi	E-government Websites User Experience from Public Value Perspective: Case Study of iTax Website in Kenya	IST-Africa 2016 Conference Proceedings	2016
24	Jean Bosco Nk. Ndushabandi, Agnes N. Wausi	ICT Governance Drivers and Effective ICT Governance at the University of Rwanda	American Journal of Information System	2016
25	Abdifatah Mohamed Abdullahi, Wagacha Peter Waiganjo	Design and Implementation of SMS Based Cattle Healthcare System for Mandera County, North Eastern Kenya	International Research <i>Journal</i> of Electronics & Computer Engineering	March 2016
26	Martina Mutheu Mulwa, Timothy Mwololo Waema	Understanding Mobile Banking from a Theoretical Lens: Case Studies of Selected Kenyan m-Banking Products	International Journal of Innovation in the Digital Economy (IJIDE)	February 2016
27	Ibrahim Otieno, Elijah Omwenga, Timothy Waema	The e-government paradox: Is it real and how can it be resolved?	IST-Africa 2016 Conference Proceedings	May 2016
28	BN Ireri, <u>El Omwenga</u>	A Bridging Technology of Learner Entry Behavior in a Flipped Classroom Model	Handbook of Research on Active Learning and the Flipped Classroom Model in the Digital Age	2016
29	Robert Oboko, John Kimani, Macire Kante, Christopher Chepken, Ruth Wario, Rebecca N. Kiai	A knowledge management system for indigenous crops production: case of sorghum farming in south Tharaka, Kenya	AIMS Agriculture and Food, 1(4): 439-45	December 2016
30	Macire Kante, Robert Oboko, Christopher Chepken	Factors affecting the use of ICTs on agricultural input information by farmers in developing countries	AIMS Agriculture and Food 2016, 1(3): 315	June 2016
31	Chepken K.C Mwashuma E.	Towards effective SMS model for disseminating healthcare information	3 rd National M/E Best Practice Conference At Kenya School Of Monetary Studies, Thika Road, Nairobi	June 2016
32	Gregory Grefenstette, Lawrence Muchemi	On the Place of Text Data in Lifelogs, and Text Analysis via Semantic Facets	iConference 2016 SIE on Lifelogging	June 2016

8. PhD Theses

Name	Title	Supervisors
Dr. Mwangi Henry N	A Within Host System Dynamics Model of HIV/AIDS, Tuberculosis and Malaria Treatment Policy (Comp.Science)	Prof. T. Waema
Dr. Simon Nyaga M	Ambient Learning Model for Research Project Supervision :An application of mobile phone-centric ambient intelligence technology in 'mobile-rich' universities (comp.science)	Prof.P.W.Wagacha
Dr. Geoffrey Wekesa C.	Optimising Rational Decision making when reasoning about enhancing PKI security for eGovernment : A Quantative Decision support Approach (information System)	Pro.w.Okelo-Odongo

Dr. Okadapau Moses	Analysis of state of electronic commerce adoption and influencing factors among small and medium enterprises in Kenya(information System)	Prof.Elijah I.Omwenga
Dr. Samuel Njuguna R	Exploring the conversion of ICTs to Basic Capacities in community ICT Interventions: Case studies in Western Kenya. (information System)	Prof.T.Waema
Dr. Ibrahim Otieno	A Citizen-Centric Model For Evaluating the Intermediate Impact of E-government: A case Study of Huduma Centres in Kenya. (information System)	Prof.Elijah I.Omwenga
Dr. Ondiek Collins Oduor	The factors Influencing Adoption of Software As A Service (SAAS) by Small and Medium Size Enterprises (SMEs): A Case study of Nairobi County in Kenya	Dr. Elisha Opiyo and Dr. Robert Oboko
Dr. Mulongo Abiud W	A two Layer mixed integer Programming model for dynamic composite Webservice Selection in Virtual Organizations inspired by layering as Optimization Decomposition	Dr. Elisha Opiyo and Elisha Abade

9. MSc Projects

SNo	Reg No	Names	Title	Supervisor
1	P51/65233/2013	Omolo Ernest Omondi	A Framework for Improving E-Participation in Kenya Mdas	A. N. Wausi
2	P51/72767/2014	Auko Erick	Mobile Phone in Empowering Boda Boda Industry	C. K. Chepken
3	P51/73015/2014	Misiani Dadiaus	Assessing the Suitability of an Interactive Individualized Electronic Health Record Management System for Cardiovascular Patients in Kenya	C.K. Chepken
4	P51/73024/2014	Mugambi Muriuki	Beyond Zero Campaign Mobile Clinic Locator	C. K. Chepken
5	P51/73345/2014	Bondo Cyrus	Patients-Hospitals Access Challenges Under Healthcare Insurance	C. K. Chepken
6	P52/64434/2013	Litali Dennis	Business Intelligence for Decision Support in Organizations.Case of Uchumi Supermarkets.	S. N. Ruhui
7	P52/72624/2014	Kinyua Wallace Muchiri	Integrated Analysis of Student Feedback for Continuous Service Delivery, A Business Intelligence Approach.	E. T. Opiyo
8	P52/72839/2014	Osewe Stephen	Prediction and Classification Of Treatment Failure Among HIV Positive Patients: An Implementation Data Mining and Neural Network as a Learning Algorithm.	P. W. Wagacha
9	P52/72897/2014	Mburu John	Near Real Time Business Intelligence and Decision Making in the Banking Industry	C. K. Chepken
10	P52/72911/2014	Munyi George Michael	Tracking Visitors Using Face Recognition	W. O. Odongo
11	P53/65238/2013	Kibet Nahashon	Prepaid Subscriber Profiling, A Big Data Approach	A. M. Kahonge
12	P53/65321/2013	Ndungu Joseph	Impact of Information Security on E-Learning Implementation in Non-Governmental Organizations In Kenya. (Case Study of Save the Children International)	A. M. Kahonge
13	P53/65552/2013	Mocheche Callo	Security of Data in Patient Health Management System	A. M. Kahonge
14	P53/65715/2013	Mwangi Reuben	A Soa Framework for Data Integration in Aid of Fraud Mitigation: A Case of the Kenyan Insurance Industry	A. M. Kahonge
15	P53/65924/2013	Rop Emmanuel	Sensor Aided Information System on Water Availability at Watering Points in Arid and Semi-Arid Areas	A. M. Kahonge
16	P53/72588/2014	Ahindu Anthony	"Abandoned" Vehicles, Causes and Implications on Security-A Case of Kenya Airports Parking Services (KAPS) Ltd Within Nairobi County	E. O. Abade

17	P53/72731/2014	Ndirangu Peter	Technology Utilization for Effective Road Traffic Management to Minimize Congestion in Nairobi Central Business District.	E. K. Miriti
18	P53/72766/2014	Otieno Daniel	Developing a Secure Network Admission Control System for a Byod Environment: Tmea Case Study	E. O. Abade
19	P53/72812/2014	Otieno Steve Otieno	Comparative Study of Performance of Signature and Anomaly Based Intrusion Detection Systems	E.O. Abade
20	P53/72874/2014	Achang'a Robert	Enhancing Monitoring and Evaluation in Kenya Health Sector Using Data Warehouse	P. W. Wagacha
21	P53/73060/2014	Kibugu Anne	A Data Warehouse Implementation Model for Improved Decision Support at the Higher Education Loans Board.	W. O. Odongo
22	P53/73087/2014	Mukanu Wainaina	Research Into the Applications of Wireless Sensor Networks Using Infrasound for Human Elephant Conflict Mitigation	E. M. Ayienga
23	P53/73139/2014	Nyakundi Kelvin	Static Analysis of Java Libraries in Android for Data Leakage	E.O. Abade
24	P53/73272/2014	Kimeli Gloria	A Resource Allocation Architecture for Dynamic Triage of Mass Casualty Victims	W. O. Odongo
25	P53/78827/2015	Mutembei David	Use of Data Analytics in Residential Home Based on Cloud Computing	A. M. Kahonge
26	P53/78993/2015	Mony Jacktone	Use of Wireless Technology for Transmission of Game Moves	E. K. Miriti
27	P53/78996/2015	Muya George	Context Aware Wireless Sensor Network Framework for Water Quality Monitoring	C. K. Chepken
28	P53/79024/2015	Ombati Kenneth Miruka	A Simulation of Using Mobile Phone Wireless Voip and SIP Server Integrated With GSM Gateway To Provide Communication in Areas with Cellular Network Coverage Challenges	R. O. Oboko
29	P53/79053/2015	Maina Nderitu Daniel	Monitoring Transparency in the Charging and Use of Airtime and Mobile Data in Mobile Phones in Kenya	C. K. Chepken
30	P53/79060/2015	Kairianja Lee Mbugua	Implementing Distributed Multi-Node PIR Sensor for Intruder Detection and Localization for Smart Home Security	R. O. Oboko
31	P53/79061/2015	Someran Erik Van	Development of Real-Time Soil Ph Sensor for Determining Wheat Growth Status.	R. O. Oboko
32	P53/79064/2015	Ricky Rotah	Security of Web Applications from Cross Site Scripting Attacks in Browser Side	R. O. Oboko
33	P53/79106/2015	Kathuri Bernard Peter	Prototyping Pre-Notification Service for Birth Registration in Kenya - Soa Model	E. K. Miriti
34	P53/79176/2015	Muchoki Simon	Services Aware Scheduling for Time Constrained Communication in Network Functions Virtualization and Software Defined Networks	W. O. Odongo
35	P53/79207/2015	Munyole Alex	Enhancing HTTP Service Migration Response Time in CDN Using Openflow Based Network	E. M. Ayienga
36	P53/79214/2015	Mutisya Micah	Utilization of Cloud Database in Criminal Background Check	A. M. Kahonge
37	P53/79217/2015	Kamau Maurice	Leveraging Cloud Computing in Kenya through Cloud Brokerage	C. K. Chepken
38	P53/79275/2015	Mukola Joseph Mbuvi	Modifying Openstack to Create Adhoc Cloud	C. K. Chepken
39	P53/79321/2015	Rono Dennis	Enhancing Public Wi-Fi Security Systems to Facilitate Digital Forensic Investigations in Kenya	E. O. Abade
40	P53/79364/2015	Maitai Rimoin	Accurately Measuring and Timely Reporting of Over-Speeding Using Global Positioning System Devices on Kenya Highways Along Forested Areas	W. O. Odongo
41	P53/79371/2015	Koriata Tuyaa	Securing Military Surveillance Wireless Sensor Networks by Detecting and Isolating Malicious Nodes Using Enhanced Weighted Trust Evaluation Scheme	W. O. Odongo
42	P53/79466/2015	Ombiro Handson	Mobile-Based Multi-Factor Authentication Scheme for Mobile Banking	C. K. Chepken
43	P53/79539/2015	Wafula Wanjala	Social Media Forensics for Hate Speech Opinion Mining	A. M. Kahonge
44	P54/65249/2013	Nyandoro Reu	Assessing the Impact of Management Control Systems in Technology Start Ups and SMES in Kenya	S. N. Ruhui
45	P54/65595/2013	Atinga Eric	Assessment on the Readiness of the Police to Adopt Information Technology at the Police Station Level in Developing Countries: A Case Study of Kenyan Police Stations.	C. K. Chepken

46	P54/65663/2013	Manja Lemmy	Adoption of Cloud Computing as a Tool for Effective Management of Kenyan Public Schools in Order to Promote Fair Practice Among Learners	E. O. Abade
47	P54/72777/2014	Muiga Cecilia	Policy Researchers' Behavioral Intention to Use Open Data Technologies in Nairobi, Kenya: Applying the UTAUT Model	C. A. Moturi
48	P54/72858/2014	Kwamboka Susan	Assessing the Influence of Information Systems Outsourcing on Information Technology Service Delivery in the Kenyan State Corporations	A. N. Wausi
49	P54/72884/2014	Njoroge Irene Wambui	Information Security in a Kenyan Bank: Case Study of H-Bank	C. A. Moturi
50	P54/72913/2014	Ochola Collins Ochieng	Software Engineering Jurisprudence Requirements for Engineering Privacy	A. N. Wausi
51	P54/72929/2014	Oluoch Polycarp	Analysis of Technology Adoption in Parliament of Kenya in the Context of TOE Framework.	E. O. Abade
52	P54/73011/2014	Matere Luke	Investigating the Use of Social Networking Technologies on Students Academic Performance Through Collaborative Learning in Kenyan Higher Education: A Case of School of Computing and Informatics, University of Nairobi.	S. N. Mburu
53	P54/73014/2014	Kiteme Sally Lydia	Ict Outsourcing And Multi-Contractual Management Effects/Negative Impact On Ict Quality Of Service	A. N. Wausi
54	P54/73016/2014	Mwangi Paul Kibuku	Integrating Public Value in Implementation of Government E-Services in Kenya	C. A. Moturi
55	P54/73075/2014	Mwaura Lucy Wacuka	Monitoring of E-Waste in Companies as an E-Waste Management Method in Kenya: An Exploratory Study.	C. K. Chepken
56	P54/73088/2014	Kaibiu Joe	Use of Soa for an Integrated Kenyan E-Government	S. N. Mburu
57	P54/73244/2014	Nzomo Daniel	Perceived Effectiveness and Contribution of Living Labs to Tenant Enterprises in Kenya	C. A. Moturi
58	P54/73325/2014	Mwagoti Lawrence	Social Engineering in E-Commerce Platforms in Kenya	C. A. Moturi
59	P54/73366/2014	Omondi Victor	Air Pollution Monitoring in Urban Areas Through Internet of Things: A Case of Nairobi City.	C. Moturi
60	P54/73394/2014	Sagimo John	E-Government Adoption through Gender Mainstreaming	E. O. Abade
61	P54/73489/2014	Murambi Kennedy	An Assessment of Risks of ICT Outsourcing Functions in Kenyan Commercial Banks	E. O. Abade
62	P54/78930/2015	Rotich Beatrice	Techno Depression an Emerging Phenomenon in the Kenyan Context.	R. O. Oboko
63	P54/78948/2015	Ileli Hassan	Model Of Evaluating Cloud Security Sla	C. K. Chepken
64	P54/78998/2015	Choge Emmanuel	Evaluating Preparedness for Social Network Integration Into Teaching and Learning. A Case Of Strathmore University.	T. M. Waema
65	P54/79058/2015	Jackline Boke Chacha Jackline Boke Chacha	Effects of Digital Devices on Learning Outcomes	R. O. Oboko
66	P54/79081/2015	Muraya John	Impact of Connected Farmer Alliance (CFA) System in the Agriculture Sector	A. N. Wausi
67	P54/79135/2015	Samoei Irine	An Evaluation of the Impact of Green ICTS in Higher Learning Institutions in Kenya(A Case Study of Top Ten Universities In Kenya According to 41CU 2016 Ranking)	C. A. Moturi
68	P54/79165/2015	Onduso Livingstone	IT-Business Partnership as Enabler for IT-Business Alignment	R. O. Oboko
69	P54/79168/2015	Maingi Samuel	Big Data Analytics of Refugee Asylum in Kenya	A. N. Wausi
70	P54/79193/2015	Ndungu Lucy	Mobile Health Management and Data Mining A Case of Epidemics	P. W. Wagacha
71	P54/79199/2015	Gichobi George	The Impact of Wearable Technology in the Lives of People Living In Emerging Markets.	T. M. Waema
72	P54/79205/2015	Mwendwa Bernard	Adoption of Crowdsourcing in E-learning in Kenya: A Conceptual Framework	T. M. Waema
73	P54/79218/2015	Mnawe Moses	Impact Assessment of Kwatos on Regional Integration.A Case Study of Kenya Ports Authority-Kilindini Waterfront Automated System.	T. M. Waema

74	P54/79222/2015	Chumba Hosea	Assessment of E-Learning Impacts on Students: A Case Of University of Nairobi	R. O. Oboko
75	P54/79228/2015	Theuri Michael	Challenges of Adopting Cloud Computing into Education in Nairobi.	A. N. Wausi
76	P54/79244/2015	Were Victor	Assessment of Data Governance Maturity Level at Pharmacy & Poisons Board in Kenya	C. A. Moturi
77	P54/79261/2015	Mukhongo Christine	Use of ICT for Sustainable Micro-Insurance Marketing: A Customer Needs Driven System to Address Kenya's Low Insurance Penetration Rate.	C. A. Moturi
78	P54/79266/2015	Kasengi Lincoln	Recommender Privacy Preserving Reputation Based Healthcare System for Use in Kenya	D. O. Ochieng
79	P54/79270/2015	Oyugi Sharon	IT Outsourcing Spending and Benchmark: Case of Telecommunication Industry	S. N. Ruhui
80	P54/79273/2015	Lanyo Kevin	Sentiment Analysis of Social Media Posts to Support Knowledge Management in Health Care Regulation	A. N. Wausi
81	P54/79274/2015	Mairu Martin	An Analysis of Critical Success Factors for Successful E-Procurement Implementation in the Kenyan Public Sector	A. N. Wausi
82	P54/79282/2015	Amutsama Wilson	Generating Linked Data From Open Government Data to Enhance Accesibility for Easy Reusability	A. M. Kahonge
83	P54/79285/2015	Ipomai Robert	Adoption of Business Intelligence Solutions-A Case of the Kenyan Insurance Industry	E. K. Miriti
84	P54/79302/2015	Sino George	Investigation into the Link Between ICT Characteristics of Device Used and Children Learning Outcome and Learning Experience	R. O. Oboko
85	P54/79309/2016	May Tonia	Critical Evaluation on the Use of Social Media as a Recruitment Tool for Enrolling Qualified Personnel in Kenya	A. N. Wausi
86	P54/79313/2015	Murathi Carol	Adoption of E- Procurement in Kenyas Public Sector, A Case-Study of IFMIS	E. O. Omwenga
87	P54/79343/2015	Kirui Andrew	Consumer Behavior Towards Online Shopping in Kenya: Case Of Nairobi County	E. K. Miriti
88	P54/79377/2015	Abuli Michael	The Human Factor Contribution in Evolution of Internal Threats in Execution of Cyber Crime in Kenyan Public Sector Enterprises: Case Study of Higher Education Loans Board	E. K. Miriti
89	P54/79391/2015	Gachukia Jennifer	E-Readiness of Primary School Teachers in Kenya for the Digital Literacy Programme	R. O. Oboko
90	P54/79431/2015	Wangonde Hannah	E-Tracking System for Loan Repayment	C. A. Moturi
91	P54/79547/2015	Ndunda Simon	A framework for the Implementation of Mobile C2B Payment Solutions: A Case for SMES in Kenya	R. O. Oboko
92	P54/79565/2015	Muma Tobias	Role of Change Management in Implementation of ERP Systems: Case of IFMIS of Kenya	A. N. Wausi
93	P54/79605/2015	Odhiambo Patrick Lumumba	Impact and Sustainability of Cloud Computing on the Environment	E. I. Omwenga
94	P54/79626/2015	Nzioka Benjamin	An Investigation on the Effect of Content Design Factors on Learning Outcomes in Primary Schools: A Case Study of Kalawa Primary School	R. O. Oboko
95	P54/79651/2015	Jefwa Machael	A Methodology for Cloud Computing Implementation for Health NGOs in Kenya	C. K. Chepken
96	P54/79722/2015	Kango Ezekiel	Usage Issues Affecting Early Adopters of Mobile Banking Services in Kenya: Case of Equitel Thin Sim Card Technology	A. N. Wausi
97	P54/79726/2015	Waweru Reuben	Cyber-Security Readiness Assessment Model For Higher Learning Institutions In Kenya	A. N. Wausi
98	P54/79769/2015	Omondi Godfrey	A Model of an Integrated Unified Communication Networks Using PSTN Gateways and Cucm Server – Uon.	E. I. Omwenga
99	P54/79776/2015	Kibuswo Andrew	Possible Determinants for Non-Adoption of E-Waste Management System in Kenya. A Case of Telecommunications Firms in Kenya	T. M. Waema
100	P54/79782/2015	Kimaru David	Evaluation of the Implementation of the Cashless Fare System in Kenya Public Transport	A. N. Wausi
101	P54/79830/2015	Kariuki Isaac	Cloud Computing Adoption in Micro-Finance Institutions in Nairobi County	E. I. Omwenga

102	P54/79964/2015	Achieng Jane	A Strategic Approach to Enhancing Access to the Digital Repository of the University of Nairobi	A. N. Wausi
103	P56/61412/2013	Wambugu Naftaly	Overcoming the Digital Divide in Kenya's Rural Areas. A Framework Towards Digital Inclusion	A. M. Kahonge
104	P56/61449/2013	Mutisya Morris	Assessing Ecommerce Utilization by Logistics Companies in Kenya	C. A. Moturi
105	P56/61468/2013	Waweru Zac	Assessing the Influence of Performance Contracting on Automation. Case of Public Universities in Kenya.	A. N. Wausi
106	P56/62501/2013	Mosomi Benard	Community Maternal Health Sms Information System for Maternal Deaths	T. K. Omwansa
107	P56/63162/2013	Mosomi Ronald	Micro-Finance Solution for Boda Boda Operators	L. M. Githiari
108	P56/72682/2012	Kuria James Mwangi Kuria	ICT Adoption in Training Colleges. A Validation of TOE Framework.	C.A. Moturi
109	P56/8571/2004	Chege Anthony	Computer-Assisted Altitude Encoder Simulation	A M. Kahonge
110	P56/p/8084/2004	Siika Gichaba	M-Health Information System for Care, Support and Treatment of Tuberculosis (A Case Study of Tuberculosis in Kenya)	R. O. Oboko
111	P58/62969/2011	Githaiga Wahome	Multi Factor Authentication By Use Of A Blue. Opiyooth Token To Reduce Password Complexity	C. A. Moturi
112	P58/63269/2011	Njeru Ambrose	Leveraging Animal Health through Early Warning Systems and Enhancement of Information Access Using Mobile and Service Oriented Technology. - Case Study on Cattle	C. K. Chepken
113	P58/63386/2011	Wanjohi John Kennedy	Role of IT Governance in the Success of Erp Systems Value Delivery: The Case of a Local Airline	S. N. Ruhui
114	P58/63521/2011	Maina Daniel Kabue	Citizen Centric Evaluation of ICT Sustainable Services for Persons With Disability: A Case Study of Huduma Centres in Kenya	C. A. Moturi
115	P58/73336/2009	Murimi Morris	Using Distributed Systems in Managing Chronic Ailments in Kenya	E. M. Ayienga
116	P58/75739/2012	Murigi Kenneth	Adoption Of Datamining to Facilitate Intelligent Marketing in Small and Medium-Sized Enterprises	E. T. Opiyo
117	P58/75805/2012	Okoth Kevin	A Heart Disease Prediction Model Using a Combination of C4.5 and Association Rule Algorithms	E. M. Ayienga
118	P58/76055/2012	Koech Vincent	Information Hiding Technique for an ICT Security Firm (Steganography)	P. W. Wagacha
119	P58/77093/2012	Omollo James	Autonomous Multi-Agent Framework for Real Time Fraud Detection in Mobile Banking Systems	C. K. Chepken

10. Conference and workshop attendance

Staff	Conference/Workshop	Date	Place
Dr. Lawrence Muchemi Githiari	iConference 2016 SIE on Lifelogging,	20 -23 March 2016	Philadelphia, Pennsylvania, USA
Dr. Tonny Kerage Omwansa	University Administrative Support Program (UASP)	25 September - 4 November 2016	Carnegie Corporation of New York in New York, USA
Dr. Tonny Kerage Omwansa	Mobile World Congress Shanghai 2016	29.6.2016- 1.7.2016	Shanghai China
Dr. Tonny Kerage Omwansa	Uk for an executive briefing event at Microsoft	14-15 /4/2016	Eecutive Briefing Center in London
Dr. Daniel Orwa Ochieng	HCD Consultative Workshop	6/10/2016	Seattle, US
Dr. Daniel Orwa Ochieng	African Conference on Human Computer Interaction (AfriCHI)	21 – 25 November 2016	University of Nairobi and Villa Rosa Kempnski
Dr. Christopher Chepken	African Conference on Human Computer Interaction (AfriCHI)	21 – 25 November 2016	University of Nairobi and Villa Rosa Kempnski

Dr. Opiyo	Principles and Practice of Research Data Management and Collection	18th– 22nd April 2016	School of Computing and Informatics, University of Nairobi
Dr. Opiyo	Research Management and Communication Tools	3rd – 7th October, 2016	School of Computing and Informatics, University of Nairobi

11. Links/Collaborations/Partnerships

	Title	Partners	Staff Involved
	Training and capacity building and transmission of knowledge and stimulation of intellectual life and cultured development	savanna Informatics	Prof.Wagacha
	Training and capacity building and transmission of knowledge and stimulation of intellectual life and cultured development	BIT Millman Ltd	Prof.Wagacha
	To deliver HAINA program	HUAWEI ACADEMY	Dr.Omwansa
	Promote research and Innovation for children	The United Nation Children's Fund (UNICEF)	Dr.Omwansa
	Youth Empowering Initiatives	I Choose life -Africa	Dr.Omwansa
	Accelerator program to enable your companies from universities from community to proportionality incubated into viable Business.	Chase bank Regarding AFTIA	Dr.Omwansa
	Developing ICT Research skills and Institutional capacity in Kenya	Washington University	Dr.Opiyo
	Training and capacity building and transmission of knowledge and stimulation of intellectual life and cultured development	University of Oslo	Prof.Wagacha
	MIT's-Africa Internet Technology Initiative (AITI) Summer Programme	UON/MIT	Prof..Waiganjo/ Dr.Mburu
	Software Development Subcontracting and Usability Lab	Nokia Research Center (NRC)/SCI	Prof.Waiganjo/Dr.Orwa/Dr. Oboko/Prof.Okelo-Odongo
	ICT Supported Distance Education in Institutions of Higher Learning	VLIR Belgium	Prof. Omwenga/Prof. Waema
	UON/HIV capacity Building project	University of Washington	Dr. Opiyo
	Training and capacity building and transmission of knowledge and	Jambo pay	Dr. Omwansa

	stimulation of intellectual life and cultured development		
	Training and capacity building and transmission of knowledge and stimulation of intellectual life and cultured development	Management Sciences for Health	Prof. Wagacha

12. Human Resource

Designation/Grade	No of Staff
Professor	4
Associate Professor	0
Senior Lecturer	8
Lecturer	9
Tutorial Fellow	2
Graduate Assistants	2
Assistant Registrar	0
Senior Administrative Assistant	1
Admin Assistant	0
Senior Secretary	0
Secretary	1
Network Engineer	0
Senior Technologist	1
Technologists	4
Library Assistant	1
Office Assistant	0
Record Clerk	1
Messenger	0
Receptionist/Telephone Operator	1
Cleaners	1
Driver	0
Total	36

13. Promotions & Appointments

Name of staff	Promotion/Appointment	Date of Promotion/Appointment
Prof. William Okelo-Odongo	Promotion from an Associate Professor to Professor	September 2016
Prof. Peter W. Wagacha	Promotion from an Associate Professor to Professor	September 2016
Prof. Elijah I. Omwenga	Promotion from an Associate Professor to Professor	September 2016
Mr. Maurice Owido Owiti	Appointed as a Records clerk	December 2016

14. C4DLab Activities

Event Name	Description	Date
Innovation forum	This was a forum to sensitize people about innovation. The guest speaker was Konza Tehnopolis Development Authority chief executive Engineer John Tanui.	2nd March 2016
East Africa Cloud summit	The event was organized to create more awareness and foster discussions on the possibilities of Cloud computing.	21st-22nd April 2016
Gender based cyber violence	The goal of the training was to build capacity of the law enforcers (Kenya Police service, the Office of the director of public prosecutions and the Judiciary) in the use of technology backed by international standards to effectively deal with the emerging threats of gender based cyber-crime in Kenya.	25th-29th April 2016
Cyber security training	This training was meant to equip the trainees with a good knowledge and understanding of the wide range of subject areas that make up information security and its management.	8th June 2016
Oracle training	This is a training was meant to increase student employability and enhance professional skills. It was also aimed at helping students in achieving a command over Oracle database domain. The motive of the program was to generate employable and quality IT professionals. A total of ten students were trained	10th October 2016
Nairobi Innovation Week	Nairobi Innovation Week is a signature annual event to celebrate and recognize innovations that are relevant to our society.	1st-5th August 2016
Startup graduation	A graduation ceremony was organized for Nine (9) startups that were incubated under the AfTIA program.	10th November 2016

15. Other Events (Please see attached photographs)

a) **Hosting of the first African Conference on Human Computer Interaction (AfriCHI)**

The conference ran from 21st-25th November 2016 and brought together researchers, practitioners, industry professionals, academics and students collaborating on HCI and Interaction. The idea for an Africa-wide Human Computer interaction (HCI) was conceived with an aim of developing a sustainable forum for local expertise in Human Computer Interaction and Interaction Design in Africa. For this conference, AfriCHI has brought together participants from Africa and others from 7 countries outside Africa. Key note speakers included Chief Chikanta from Zambia; Dr Imen Trabelsi from Sfax University/Machine-Human Interaction Association in Tunisia; Prof. Janet Wesson from Nelson Mandela Metropolitan University in South Africa; Dr Susan Dray from Dray and Associates in the USA and Prof. Meoli Kashorda from Kenya Education Network in Kenya.

b) Health Informatics Hackathon

A hackathon organized by the School of Computing and Informatics took place from 22 - 24 March 2016, having 33 students involved in the 3 day hack challenge. The hackathon is part of the mandate of AfyaInfo, a USAID funded project, to increase technical capacity and skills in National Health Information Systems. The students, organised in groups, did a desk study research with guidance from mentors to identify problems in the Health sector in Kenya. After the research they developed solutions addressing the following problems: cancer awareness; high mortality rate and infant mortality rate because of lack of proper prenatal and postnatal care; lack of proper information access about health facilities to the general public; epidemics surveillance; adherence to drugs for HIV patients and respiratory disease detection among others. The three winning teams were each awarded a cash prize for their innovativeness to solve the problems identified.

c) SCI Teambuilding

Friday December 9, 2016 was the team building day and end-of-year party for the School of Computing and Informatics (SCI). The venue was Utalii Hotel. There was fun and merriment as the SCI family interacted to enhance teamwork skills, improve interpersonal relationships and develop confidence in the team.