

Suhaila Omar Hashim

PERSONAL DETAILS

Female, Kenyan
Date of Birth: 28th February, 1972.

Current contact details

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AREAS OF SPECIALIZATION

Biochemistry, Industrial biotechnology, protein and enzyme technology, microbiology, downstream processing, molecular biology, bioinformatics.

ACADEMIC QUALIFICATIONS

- Doctor of Philosophy (PhD) 1999-2004
Biotechnology Department of Biotechnology, Lund University, Lund, Sweden.
PhD thesis: "An alkaline active maltooligosaccharide forming α -amylase from *Bacillus halodurans*" ISBN 91-89627-25-3
PhD Scholarship from Sida/SAREC)
- Master of Science 1996-2000
(Biochemistry) Department of Biochemistry, University of Nairobi, Nairobi, Kenya.
MSc. thesis: " A study on the genetic variation of *P. falciparum* strains from malaria endemic regions of Kenya"
MSc. Scholarship from German Academic Exchange Programme (DAAD)
- Bachelor of Science 1990-1995
(Biochemistry & Zoology) Bachelor of Science (Second Class Honours, Upper Division) from University of Nairobi, Nairobi, Kenya

WORK EXPERIENCE

September, 2015 to date

Senior Lecturer and Chairman of Department of Biochemistry and Biotechnology
Acting Dean, School of Pure and Applied Sciences on several occasions

August, 2013 to August, 2015

Senior Lecturer and Chairman of Department of Chemistry and Biochemistry, Pwani University.
Acting Dean, School of Pure and Applied Sciences on several occasions

September 2012 – July, 2013

Lecturer and Acting Head of Department of Chemistry and Biochemistry, Pwani University

May 2010 to August 2012

Lecturer in Biochemistry, Department of Biological Sciences (May, 2010 - August, 2011) and Department of Chemistry and Biochemistry (August, 2011 to August, 2012), Pwani University College

February 2008 - April 2010

Postdoctoral research fellow, Department of Biotechnology, Lund University, Lund, Sweden.

January 2006 - February 2008

Break in career to raise family

December, 2004 - December, 2005

Tutorial Fellow (post-PhD), Department of Biochemistry, University of Nairobi.

October 1999 - December 2004

Doctorate research project entitled "An alkaline active maltooligosaccharide forming α -amylase from *Bacillus halodurans*" carried out at the Department of Biotechnology, Lund University, Sweden, in collaboration with Department of Biochemistry, University of Nairobi, Kenya.

January - August 1999

Research Assistant, Department of Biochemistry, University of Nairobi.

Worked on an EU funded project on the genes involved in sexual differentiation of the malaria causing parasite, *Plasmodium falciparum*.

September 1995 – September 1996

Underwriting Officer, Sifa Insurance Brokers Ltd (Nairobi, Kenya)

April - July 1994

Laboratory Assistant, Aga Khan Hospital (Mombasa, Kenya)

Research Experience

Currently involved in training of postgraduate students at MSc and PhD levels in biochemistry, biotechnology and environmental sciences.

May 2010 - June 2015

Successfully led and completed two research projects won through competitive grants

- i. Research project entitled "Sustainable utilization of agro-industrial wastes through integration of bio-energy and mushroom production" in collaboration with University of Dar es Salaam (Tanzania) and Addis Ababa University (Ethiopia) and private industrial partners from each country. Total funding of USD 1.2 million from the Swedish International Development Agency, within the Bio-Innovate Program (Bioresource innovation network for Eastern Africa Development). Role: Co-Principal Investigator of the Kenyan Component of the collaboration. Supervised a PhD candidate to completion within this project.
- ii. Research project entitled, "Enhancing coconut productivity through micropropagation" with a total funding of KES 2.5 million (USD 30,000) from the National Council for Science, Technology and Innovation. Role: Co-Principal Investigator.

Postdoctoral fellowship between 2008 and 2010

öGreen Chemö project ó Greener chemistry for a cleaner environment, at the Department of Biotechnology, Lund University. Activities involved production/development of suitable biocatalysts for enzymatic transformation of renewable raw materials to chemicals and participated co- supervision of PhD candidates with research projects on stability of enzymes such as alkaline active phytases, thermostable and alkaline active xylanases.

Research experience in screening and isolation of microorganisms for production of novel biocatalysts for industrial application, enzyme technology involving gene cloning, production, purification and characterization of enzymes, bioseparation processes (downstream processing) of proteins and other biomolecules, protein stability studies, molecular biology and bioinformatics.

Other affiliations

1. Board Member and Chairman of the Scientific and Technology Committee of the Kenya Marine and Fisheries Research Institute (KMFRI) Board of Management since May, 2015.
2. Board Member of Mbaraki Girls Secondary School Board of Management since April, 2016
3. Board Member and Chairman of the Academic Standards, Quality and Environment Committee of Shimo La Tewa Board of Management since April, 2016.

Postgraduate supervision

Haitham Abdulaziz

MSc. thesis title öSeasonal variation of human pathogenic bacteria (*Enterococci* sp.) in mombasa as an indicator of sewage pollution. MSc. (Environmental Sciences)ö. Ongoing.

Mutemi Muthangya (2015)

PhD thesis öUtilization of sisal waste for biotechnological applications: biogas, organic fertilizer, mushrooms and enzymes productionö. Thesis defended on 2nd October, 2015, University of Dar es Salaam, Tanzania.

Thuy Thi Tran (2010)

PhD thesis öThermostable phytase from a *Bacillus* sp. Heterologous production, mutation, characterization and assay developmentö. Lund University, Sweden

Thuoc Doan Van (2009)

PhD thesis: öProduction of poly(3-hydroxybutyrate) and ectoines using a halophilic bacteriumö. Lund University, Sweden.

Postgraduate thesis examination

Internal Examiner for the following theses

1. Constance Nyiro Dzame

MSc. thesis on öEvaluation of UV resistance and phylogeny of epibiotic bacteria co-existing with the Kenyan Marine *Lyngbya Majuscula*” (2016)

2. Saidi Salim Saidi (2016)

Msc. thesis on öInvestigating the quality of water in shallow wells at Mokowe village, Lamu Countyö. Pwani University

3. Geoffrey Gamoyo Katana (2016)

MSc. thesis on öTreatment outcome among tuberculosis patients in Kilifi County: a retrospective studyö. Pwani University

4. Stevenson Chea (2015)

MSc. thesis on öPrevalence and correlates for home delivery among HIV infected women in Kilifi Countyö. Pwani University.

Member of Board of Examiners for the following theses:

1. Angela Wairimu Kimaru (2016)
MSc. thesis on "Efficacy of seagrass fertilizer products on performance of leafy vegetables in the lower coast of Kenya". Appointed as the Senate Representative, Pwani University.
2. Anyango James Ochieng (2015)
MSc. thesis on "Influence of seaweed farming on wild fish in Shimoni South Coast Kenya". Appointed as the School Representative, Pwani University
3. George Nyaboga Nyarieko (2015)
MSc. thesis on "Efficacy trial of *Acacia stuhlmanii* plant extracts on bacterial wilt of tomato caused by *Ralstonia solanaceum*". Appointed as Chair of the Board of Examiners, Pwani University.

Other trainings

1. Change Management and Strategic Leadership training program, 11th to 13th July, 2016 at Temple Point, Watamu. Training program supported by NUFFIC NICHE/KEN 212 Project.
2. Mwongozo Induction Programme for Boards of State Corporations 9th to 11th November, 2015.
3. Trained as a Peer Reviewer of Academic Programmes, Pwani University, 27th February, 2015.

CONFERENCES/WORKSHOPS/EXHIBITIONS/TRAINING

- i. Kenya Coast Development Programme (KCDP) Conference. Poster presentation on "Seasonal Variation of Human Pathogenic Bacteria as an Indicator of Sewage Pollution in Mombasa" by H. Abdulaziz, S. Hashim & S. Mwanguni, Voi Wildlife Lodge, 21st to 23rd March, 2016
- ii. Golden Climate International Environmental Project Olympiad 2015. Participated as a Juror in Energy category during the International Round of the 2015 Olympiad, April, 2015, Light Academy, Mombasa
- iii. Kenya Coconut Development Authority (KCDA) event: Launch of Coconut products standards, Mombasa Beach Hotel, 27th February, 2014. Participated in the development of standards for food and non-food coconut products in collaboration with KCDA, Kenya Bureau of Standards and other key stakeholders in coconut sector.
- iv. Golden Climate International Environmental Project Olympiad 2014. Participated as a Juror in Energy category during the National Round of the 2014 Olympiad, Light Academy, Mombasa, 25th -26th February, 2014.
- v. Kenya Coconut Development Authority Consultative Meeting with Stakeholders, Mombasa Beach Hotel on 24th October, 2013. Agenda: To amend the Agriculture, Food Fisheries Act (AFFA) and Crops Act. Participant
- vi. Kenya Coconut Development Authority stakeholders' workshop on Coconut Communication Strategy, Sapphire Hotel, Mombasa on 15th November, 2013. Participant
- vii. 3rd Kenyan International Coconut Conference 17th - 20th September, 2013. Theme: Developing Coconut Agribusiness Through Innovation for Improved Livelihoods. Session moderator
- viii. Training on Effective Complaints Handling Mechanisms and Resolution of Public Complaints, Pwani University, 7th May, 2013.
- ix. Conference on HIV/AIDS Mainstreaming and Integration into the University Curriculum, North Coast Beach Hotel, 27th - 28th March, 2013
- x. Local Organizer for the International Brain Research Organization (IBRO)/UNESCO School of Neuroscience on Environment, Epigenetics and Behavior, held at Pwani University from 8th - 15th December, 2012
- xi. Annual Participation in Mombasa International Show organized by the Agricultural Society of

- Kenya (ASK) 2012 - 2015.
- xii. 17th & 20th July, 2012. Humboldt Kolleg on "The Future of Biodiversity Research in Africa: Scope, Opportunities, Collaboration, Access and Sharing Benefits" Oral presentation on "Microbial enzymes: industrial applications and current status in Kenya".
 - xiii. Training Workshop on Open Access and Institutional Repositories, Pwani University, 6th July, 2012.
 - xiv. Coast Education Conference, held at Pwani University College in collaboration with the National Council for Science and Technology, 3rd July, 2012.
 - xv. Results Based Management (RBM) Workshop (May 2012) at the International Livestock Research Institute, Nairobi.
 - xvi. Digital Resources Training Workshop, held at Pwani University in collaboration with Information Training and Outreach Centre for Africa (ITOCA), 18 - 19th October, 2010.
 - xvii. Pedagogical Skills Training held at Pwani University, 6th - 7th August, 2010.
 - xviii. Inclusive Education Workshop held at Pwani University, 19th May, 2010.
 - xix. BioInnovate research project Annual Workshops held in Kilifi (March, 2011), Dar es Salaam (December, 2011), Addis Ababa (November, 2012).

COMMUNITY SERVICE

- I. Islamic Online University workshop: Presented a talk on "Instilling responsibility in our children" at a workshop on Muslim Youth Empowerment on 8th August, 2015.
- II. Motivational talk on my career as a research scientist at Shree Swaminarayan Academy in May, 2015.
- III. Pwani University Muslim Students Association Rally (February, 2013). Oral presentation on careers and motivational talks.
- IV. Muslim Education Welfare Association National Youth Camp on Ideal Muslim Youth - Peace for sustainable development (December, 2012), Oral presentation on "Environment" i.e. our responsibility towards our environment.
- V. Star of the Sea High School: Motivational talk during Career day, 7th July, 2012
- VI. Motivational talk at Coast Girls High School (October, 2011)
- VII. Motivational talk at Mbaraki Secondary School (October, 2011)
- VIII. Motivational talk at Mbaraki Primary School (October, 2011)
- IX. Motivational talk at Ngala Girls High School, Malindi (2010)
- X. Guest speaker at Pwani FM Radio Program on "The Girl Child, Sciences and Pwani University College, 22nd May, 2010.

PUBLICATIONS

J. Hassanali and S. Hashim (2016). Perspectives on Challenges of Postgraduate Training in Basic and Biomedical Sciences in Two Kenyan Universities. *Austin Journal of Anatomy*. October, 2016. *In press*

M Muthangya, A M Mshandete, J M Amana, S O Hashim, and A K Kivaisi (2014). Nutritional and antioxidant analysis of *Pleurotus* HK 37 grown on *Agave Sisalana* saline solid waste. *International Journal of Biochemistry and Biophysics* 2014; 4(2): 5-12

M Muthangya, A M Mshandete, S O Hashim, J M Amana, A K Kivaisi (2013). Evaluation of Enzymatic Activity during Vegetative Growth and Fruiting of *Pleurotus* HK 37 on *Agave sisalana* Saline Solid Waste. *Journal of Chemical, Biological and Physical Sciences*. Vol 4 (1)1: 247-258.

Muthangya M, **Hashim SO**, Amana JM, Mshandete AM and Kivaisi AK (2013). Optimization of *Pleurotus* mushroom cultivation on Saline Sisal Solid Waste. *World Applied Science Journal* 23 (9): 1146 -50.

Muthangya M, **Hashim SO**, Amana JM, Mshandete AM and Kivaisi AK (2013). Auditing and Characterization of Sisal Processing Waste - A bioresource for value addition. *ARNP Journal of Agricultural and Biological Science* 8(7): 518-524.

Muhammad N, Nyamota R, **Hashim S** and Malinga J. Zygotic embryo in vitro culture of *Cocos nucifera* L. (sv East African Tall Variety) in the Coastal lowlands of Kenya (2013). *African Journal of Biotechnology* 12 (22): 3435 - 3440.

Muhammad N, Kashindi G, Shauri H, **Hashim S**, Malinga J. Dissemination of market access and technology information among coconut farmers: a case study of Kilifi County in Kenya (2012). *International Journal of Agricultural Sciences* 2(5): 153-156.

Thuoc VD, **Hashim S**, Hatti-Kaul R, Mamo, G. Ectoine-mediated protection of enzyme from the effect of pH and temperature stress: a study using *Bacillus halodurans* xylanase as a model (2012). *Applied Microbiology and Biotechnology* 97: 6271-6278.

Tran TT, **Hashim, SO**, Mamo G, Mattiasson B and Hatti-Kaul R. Thermostable alkaline phytase from *Bacillus sp.* MD2: effect of divalent metals on activity and stability (2011) *Journal of Industrial Biochemistry* 7: 1000 -1007.

Mamo G, Kasture S, Faryar R, **Hashim S**, Hatti-Kaul R. Surfactants from Xylan: Production of n-Octyl Xylosides using a highly thermostable Xylanase from *Thermotoga neapolitana* (2010). *Process Biochemistry*. 45 (5): 700-705.

Quillaguaman J, **Hashim SO**, Bento F, Mattiasson B and Hatti-Kaul R (2005). Poly(β -hydroxybutyrate) production by a moderate halophile, *Halomonas boliviensis* LC1 using starch hydrolysate as a substrate. *Journal of Applied Microbiology* 99 (1): 151-157.

Hashim SO, Delgado O, Martinez A, Hatti-Kaul R, Mulaa FJ and Mattiasson B (2005). Alkaline active maltohexaose forming α -amylase from *Bacillus halodurans* LBK 34. *Enzyme and Microbial Technology* 36: 139-146

Hashim SO, Hatti-Kaul R, Andersson M, Mulaa FJ and Mattiasson B (2005). Differential scanning calorimetric studies of a *Bacillus halodurans* alpha-amylase. *Biochimica et Biophysica Acta*. May 25; 1723(1-3):184-91.

Hashim SO, Delgado O, Hatti-Kaul R, Mulaa FJ and Mattiason B (2004). Starch hydrolysing *Bacillus halodurans* isolates from a Kenyan soda lake. *Biotechnology Letters* 26: 823-828.

Sallicandro P, Paglia MG, **Hashim SO**, Silvestrini F, Picci L, Gentile M, Mulaa F, Alano P (2000). Repetitive sequences upstream of the pfg27/25 gene determine polymorphism in laboratory and natural lines of *Plasmodium falciparum* *Molecular and Biochemical Parasitology* 110 (2): 247-57.

REFEREES

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