# **CURRICULUM VITAE**



# Olubukola Oluranti BABALOLA, PhD

# Pr.Sci.Nat. [NRF rated scientist]

#### 1. Personal

Surname: Babalola

Names: Olubukola Oluranti Identity number: 7008130971183

Sex: Female

Nationality: South African Permanent Resident (Nigerian born)

Language: English

Marital status: Married (Prof S.S. Babalola)

Two children (Michella 19yrs & Daniel 16yrs)

Postal address: Biological Sciences Department, North-West University, Mafikeng campus.

Private Bag X2046 (Internal box 575), Mmabatho, 2735, South Africa

Director: Food Security and Safety Niche Area

Principal Investigator: Microbial Biotechnology Laboratory

Room G09/G10, Dept. of Biological Sciences; Faculty of Agriculture, Science and Technology, North-West University, Mafikeng campus; Private bag X2046, Mmabatho, 2735, South Africa

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**Skype:** oobabalola

http://en.wikipedia.org/wiki/User:Babalola O.O.

http://scholar.google.com/citations?user=rmHHG2UAAAAJ

www.researchgate.net/profile/Olubukola Babalola

http://za.linkedin.com/pub/olubukola-oluranti-babalola/18/74b/756

academic.research.microsoft.com/Author/23881061/...

http://orcid.org/0000-0003-4344-1909

http://www.pubfacts.com/author/Olubukola+Oluranti+Babalola

#### 2. Education

- ▶ Ph.D. Microbiology, 2002, University of Ibadan, Ibadan Nigeria. Jan. 1997 July 17, 2002.
- ➤ M.Sc. Microbiology, 1996, University of Ibadan, Ibadan Nigeria. May, 1994 Nov. 28, 1996.
- **B.Sc. (Hons).** Microbiology, 1992, Ogun State University, Ago-Iwoye Nigeria. Oct. 1988 Nov. 5 1992.
- ➤ WASC (Sciences) 1987, Methodist Girls' High School, Yaba, Lagos Nigeria. 1982 June 1987 (Punctuality prefect)
- First school leaving certificate 1981, African Church Princess Primary School, Akoka, Yaba, Lagos, Nigeria.

## 3. Professional Certificates Courses

- ➤ Middle Management Programme, Management Skills Development Jan-Dec 2016. North-West University School of Business and Corporate Governance. NQF 6. Assoc. of MBA accredited. ETDP SETA bursary. (Modules: Organizational Behavior, Financial Accounting, Operations Management, Management Accounting, Management Economics, Marketing Management, Labour Relations). North-West University, Potchefsroom, South Africa.
- Assessors' workshop (SAQA ID: 115753; NQF 5), 15th-18th March 2016, Ikhono consulting, Academic Development Centre, North-West University, South Africa.
- ➤ Springer Peer Review Academy. 16<sup>th</sup> Nov. 2015. academy.springer.com. Convenor: Juliane Ritt
- ➤ Fellowship of the Africa Science Leadership Program. (ASLP) 07<sup>th</sup> 12<sup>th</sup> June 2015, FarmInn, Pretoria, South Africa. Convenor: Prof Bernard Slippers (http://www.up.ac.za/en/centre-for-the-advancement-of-scholarship/article/2099449/aslp-2015)
- ➤ European Molecular Biology Organization (EMBO) Laboratory Management Course for Group Leaders. 24<sup>th</sup>-27<sup>th</sup> November 2014, Villa Toskana Hotel, Hamburger Strass 4-8, D-69181 **Leimen**, **Germany**. Convenor: Martin Cairns.
- ➤ Essential Good Laboratory Practice<sup>TM</sup> Short Course 22 24 October 2014 DNABiotec, de Havilland Crescent Persequor Park, **Pretoria, South Africa**. Covenor: Prof A. Olckers
- ➤ Essential Science Project Management<sup>™</sup> Course. 1<sup>st</sup>-3<sup>rd</sup> July 2014, DNABiotec, de Havilland Crescent Persequor Park, **Pretoria**, **South Africa**. Covenor: Prof A. Olckers
- The "AAAS-TWAS Summer Course on Science and Diplomacy". 8th-13th June 2014, The World Academy of Sciences (TWAS) for the advancement of science in developing counties. How scientists can work with policymakers to have an impact on international relations **Trieste**, **Italy**. Convenor: Prof Romain Murenzi, TWAS, and Dr Vaughan Turekian, AAAS
- ➤ Intelligent Lean Laboratory Management, Creating a world class lab by employing Lean and Six Sigma techniques. 8<sup>th</sup> 10<sup>th</sup> April 2014, Emperor's Palace Hotel, **Johannesburg**, **South Africa**. Convenor: Mr. Jaco Koen. Ngoboyi Training International.
- ➤ NWU leadership and management academy. New manager development programme (NMDP). Module 1: Fundamentals of management and leadership, 26-27<sup>th</sup> March 2014; Module 3: Governance, Finance, Legal and Risk, 24<sup>th</sup> June 2014; Module 4: Transformation, 15<sup>th</sup>-16<sup>th</sup> July

- 2014. Module 5: Strategic Planning, 29<sup>th</sup> July 2014 presented by Experiential Technologies; Module 6: People Management Skills for Managers, 18<sup>th</sup>-19<sup>th</sup> August 2014. **Mafikeng, South Africa**
- ➤ Assertiveness skill. Congruence people development specialist. Mafikeng, Feb. 25<sup>th</sup> 2014, **South Africa**. Convenor: Mr. Jeremy Coetzer
- ➤ Applied Dual-Use Biosecurity Education, Twelve-week Professional Development online Trainthe-Trainers course. 2012, Bradford Disarmament Research Centre, Dept. of Peace Studies, University of Bradford, UK. Convenor: Dr Simon Whitby
- Facilitator workshop (US Code: 117871), 4<sup>th</sup>-5<sup>th</sup> Oct. 2011, Buffalo park, Mafikeng, **South Africa**. Convenor: Mr. Hennart van Schalkwyk
- ➤ Biosafety Workshop "Problem formulation: A Strategic Approach to Risk Assessment of GMOs" Convenor: Drs. Wendy Craig and Giuliano Degrassi. 19-23rd Sept. 2011, ICGEB, Trieste, Italy.
- ➤ Emotionally Intelligent Leadership, 16-17<sup>th</sup> May 2011, Kwelanga training, Ms. Hazel Ferrer. **South Africa**.
- ➤ South Africa/Argentina Joint Regional Biosafety Workshop and Seminar. "Biosafety of GM crops: Emerging issues and challenges in regulatory decision making" 07-11 March 2011 Dept. of Agric., Forestry & Fisheries, **Pretoria**, **South Africa**. In collaboration with ICGEB, and Ministerio de Agricultura, Ganaderia y Pesca, Argentina. Convenor: Ms. Chantal Arendse.
- ➤ 2011 Phase 3. Institutional Course for new lecturers (ICNL) in the Foundations and Ethical Aspects of Science, (Jan 28<sup>th</sup> and June 2nd). NWU, **South Africa**. Convenor: Prof Hannes van der Walt.
- ➤ Designer assessment workshop (US Code: 115755), 24<sup>th</sup>-28<sup>th</sup> Jan. 2011, Buffalo park, Mafikeng, South Africa. Convenor: Mr. Hennart van Schalkwyk
- ➤ SANBio/University of Mauritius Phylogenetics workshop, 15-19 Nov. 2010, University of Pretoria, South Africa. Convenor: Prof Jaufeerally-Fakim Yasmina.
- Phylogenetics workshop, Hosted by Inqaba Biotechnical industries (Pty) Ltd and FABI. University of Pretoria, South Africa. Oct 20-22 2010. Presented by Dr Jane Wright.
- ➤ Biosafety Workshop "An introduction to the risk analysis of current genetically modified organisms (GMOs) and their products, and to possible issues raised by novel GMOs in the future" ICGEB. Convenor: Drs. Wendy Craig and Giuliano Degrassi. 27 Sept 1 Oct. 2010, Trieste, Italy.
- ➤ Workshop on "Pathogen Genomics", 2-6 August 2010, University of Pretoria, South Africa. Convenor: Prof Jaufeerally-Fakim Yasmina.
- ➤ Personal Development Workshop: Emotional intelligence, May 2010. Presenter by Ms. Makheni, Real Solutions Training.
- ➤ Moderator workshop (US Code: 115759), 29th-31st March 2010, Academic Development Centre, North-West University, **South Africa**. Competitive Edge Training Consultancy. Convenor: Mr. Hennart van Schalkwyk
- ➤ Assessors' workshop (US Code: 115753), 24<sup>th</sup>-26<sup>th</sup> March 2010, Academic Development Centre, North-West University, **South Africa**. Competitive Edge Training Consultancy. Convenor: Mr. Hennart van Schalkwyk

- ➤ SANBio/University of Mauritius Bioinformatics workshop, 22-26 Feb. 2010, University of Mauritius, Reduit, Mauritius. Convenor: Prof Jaufeerally-Fakim Yasmina.
- ➤ Institutional Course for New Lecturers (ICNL), 26<sup>th</sup>-28<sup>th</sup> Jan. 2010, Institutional office, North-West University, Potchefstroom, **South Africa**. Convenor: Ms. M. Klopper
- ➤ Workshop with Practical Components. "Risks, benefits and opportunities from the release of GMOs in the African Regions". 15<sup>th</sup>-19<sup>th</sup> Sept. 2008, ICGEB Cape Town Component, Cape Town, **South Africa**. Convenor: Dr Helen Hinge
- ➤ Workshop on the Theory and practice of Phylogenetics, the University of Cape Town, 4-8<sup>th</sup> February 2008. (Instructor: Pablo Goloboff and Steve Farris), Convenor: Prof Tim Crowe. Funded by SABI, NRF, Dept. Sci. and Tech., and UCT. South Africa.
- ➤ United Nations Conference on Trade and Development (UNCTAD) Advanced laboratory training in Molecular biology, University of Cape Town, South Africa. October 16 2006 January 16 2007. (cDNA synthesis, transfecting, RNA isolation, quantification, gel electrophoresis, Western blot, RT-PCR, Zymography, primer design, tissue culture, RFLP, BCA/BSA protein assay)
- ➤ Sixth International Workshop on Radiation Damage to DNA May 13 17, 2006 Tekirova, Antalya, Turkey.
- Sustainable Environmental Management, June 25 July 16, 2005. Beahrs Environmental Leadership Program. Convenors: Dr. Robin Marsh, and Prof. David Zilberman, University of California, Berkeley, USA. beahrselp.berkeley.edu/All%20Participants%20List.pdf
- ➤ BioNET Africa Training Workshop on Bioinformatics/Computational Biology. 24-25 September 2002. Institute of Computer Science, School of Biological Sciences, University of Nairobi, Riverside Drive, Nairobi. Kenya. Convenor: Dr. Daniel Masiga.
- ➤ The 3<sup>rd</sup> IUBMB/FASBMB/SASBMB Biochemistry Education Workshop. 17-19 November 2001 Cape Town, South Africa. Convenor: Dr Trevor Anderson.
- Research Project Management an interactive course for postgraduate scholars. 5-9 November 2001. The International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya. Resource person: Dr. Odindo.
- ➤ Postgraduate Biostatistics for Graduate Scholars in Biological Sciences/ International Centre of Insect Physiology and Ecology (ICIPE) Nairobi, Kenya/September 24 October 26, 2001.
- ➤ Bionet-Africa Workshop on capacity building in biotechnology and biosafety. Theme: Network for capacity building in biotechnology and biosafety for African universities. Date: 11-13 July 2001. International Centre of Insect Physiology and Ecology (ICIPE) Nairobi, Kenya.
- ➤ French for public speaking. 13 September 1999 December 2000. The International Institute for Tropical Agriculture (IITA). Instructor Dr. Saah Clotaire. French for beginners Alliance Française, Ibadan, Nigeria
- Agricultural Research Management Workshop for Graduate Research Fellows/ The International Institute of Tropical Agriculture (IITA)/. Monday 13 Friday 17 September 1999. Ibadan, Nigeria. Instructor Dr. Wale Adekunle
- Communication skill workshop for Graduate Research Fellows/ The International Institute of Tropical Agriculture (IITA)//June 28-July 2 1999. Ibadan, Nigeria. Instructor Mr. R. P. Eaglesfield.

> Statistics and statistical computing/The International Institute of Tropical Agriculture (IITA)/Feb.8-29 1999. Ibadan, Nigeria. Instructor Dr S. K. Nokoe

## 4. Other Professional, developmental Courses/Workshops attended

- ➤ Professional Administrative Skills, 18<sup>th</sup>-19<sup>th</sup> Nov. 2015. North-West University, Mafikeng Campus. South Africa. Convenor:
- ➤ Emotional Intelligence and Conflict Management, 5th-6th August 2015. North-West University, Mafikeng Campus. South Africa. Convenor:
- > SPSS short course for researchers. July 6th-10th 2015. North-West University, Mafikeng Campus. South Africa. Convenor: Marike Cockeran.
- ➤ Time Management, 15th May 2015 North-West University, Mafikeng Campus. South Africa. Convenor: Feroza Sader
- ➤ Effective Business WritingTM RUZIVO, 13-14th May 2015 North-West University, Mafikeng Campus. South Africa. Convenor: Feroza Sader
- ➤ 2015 ADC trainings: Curriculum design 22nd April. Facilitator Prof Mwenesongole; Large class teaching 13th April, e-portfolios 15th April; Linking learning styles to blended learning/The flipped classroom. NWU, 14th /15th March. 2015 Convenor: Nico Baird
- ➤ Business Image & Corporate Etiquette. NWU, 12th Feb. 2015
- ➤ Scientific writing and Science Communication, ASSAF inaugural OWSD regional workshop, 19-22 August 2014. CSIR International Convention Centre, **Pretoria**, **South Africa**.
- ➤ Finance for non-financial managers. NWU, June 25<sup>th</sup> 2014
- ➤ Bioinformatics Workshop. September 16<sup>th</sup>-20<sup>th</sup> 2013 at the Kwazulu-Natal Research Institute (K-RITH), **Durban**, **South Africa**.
- ➤ Information Ethics in Africa, Provincial Workshops. Information Ethics in Practice, North-West University, 24<sup>th</sup> May 2013, Room 135, Institutional office.
- ➤ Employee Health & Wellness 2013: Early planning for retirement, April 11<sup>th</sup>/Financial literacy May 7<sup>th</sup>/ 2013.
- ➤ Seminar on Postgraduate Supervision. November 1<sup>st</sup> 2012, North-West University, Potchefstroom Campus. South Africa. Convenor: Prof Laetus OK Lategan.
- ➤ Seminar on Laboratory Safety. October 1<sup>st</sup> 2012, Hall 2AG01, North-West University, Potchefstroom Campus. South Africa. Convenor: Terry Nelson
- ➤ Roadmap to financial freedom. April 12 and 19th 2012. North-West University. South Africa. Convenor: JP Fouche and RJJ Barnard.
- ➤ SANBio/University of Mauritius Bioinformatics workshop, "Genome Sequencing, Assembly and Annotation" 21-25 Nov. 2011, Bioinformatics laboratory, University of Mauritius, Reduit, Mauritius. Convenor: Prof Jaufeerally-Fakim Yasmina.
- ➤ Making a positive difference in the workplace. Oct. 14<sup>th</sup>, 2010. North-West University, Mafikeng Campus, **South Africa**. Convenor: Kwelanga training.
- > Stress management. People Capacity Solutions (Pty) Ltd. July 2010.

- ➤ Workshop on activating IKS networks in the Southern African region. 20-22 May 2010. IKS centre of excellence, North-West University. South Africa.
- ➤ The Foundation and Ethical Aspects of Science and Scholarship Programme, NWU, Mafikeng Campus. 31\* May 2010.
- ➤ Microsoft Office Word 2007 level 1, 2 & 3, 19-20th April 2010, presented by Dynamix Learning Solutions.
- ➤ Wellness-Leadership & personal development presented by Neil Conradie & Associate
- ➤ Produce and use spreadsheets for business. Convenor: Martin Coetsee. L.B.T. Consortium.
- ➤ IT NWU Mafikeng courses attended in 2010: Telephone services (May 5), General ledger (July 15).
- ➤ Leadership and management. Life University: Center for leadership, excellence, achievement and development. 28<sup>th</sup> July 2010. www.lifeulead.org
- ➤ Advance eFundi training, 19<sup>th</sup> March 2010, Academic Development Centre, North-West University, **South Africa**. Convenor: Ms. M. Pooe.
- ➤ Induction of new academic staff members, 15<sup>th</sup> March 2010, Academic Development Centre, North-West University, Mafikeng Campus, **South Africa**. Convenor: Dr. MA Mokoena
- Financial reporting and system management Oracle general ledger. 22<sup>nd</sup> April 2010, North-West University, **South Africa**. Convenor: Ms. Chimone Barends.
- ➤ MS Excel 2007 Advanced, 5<sup>th</sup> Oct. 2009. Convenor: HC Venter
- ➤ Course Writers' workshop, 27<sup>th</sup> July 2009, National Open University, **Nigeria**. Course material development in NOUN. Convenors: Prof A. Adebanjo and Dr. B. Abiola.
- Enzyme kinetics workshop, 18<sup>th</sup>-20<sup>th</sup> Feb. 2008. University of the Western Cape, **South Africa**. Convenors: Prof. Michael J. Danson and Prof. David W. Hough.
- ➤ Workshop on the Theory and practice of Phylogenetics, the University of Cape Town, 4-8<sup>th</sup> February 2008. (Instructor: Pablo Goloboff and Steve Farris), Convenor: Prof Tim Crowe. Funded by SABI, NRF, Dept. Sci. and Tech., and UCT. South Africa.
- ➤ Identifying Protein Functional Sites from Multiple Sequence Alignment and Structure Data' Schmidt Auditorium, Biological data Analysis workshop series (2004-2005) at Weizmann Institute of Science, Rehovot, Israel. Convenor: Dr. Shmuel Pietrokovski.Mining Biological Databases. January 20<sup>th</sup> 2005. Ebner lecture theatre, Weizmann Institute of Science, Rehovot, Israel. Convenor: Dr. Vered Chalifa-Caspi. Life Science Computer Courses: March July 2005.
- ➤ Introduction to Bioinformatics. Spring Semester 2005. Ebner lecture theatre, Weizmann Institute of Science, Rehovot, Israel. Convenors: Dr. Irit Orr and Dr. Shifra Ben-Dor.
- ➤ SiRNA: Technologies and uses. January 6<sup>th</sup> 2005. Ebner lecture theatre, Weizmann Institute of Science, Rehovot, Israel. Convenor: Dr. Daniel Harari.
- ➤ Genome Browsers, December 9 2004. Schmidt Auditorium, Bioinformatics workshop series (2004-2005) at Weizmann Institute of Science, Rehovot, Israel. Convenor: Dr. Shifra Ben-Dor.
- ➤ A 5-day integrated lecture on 'Molecular and cellular basis of the normal immune response. 8-12<sup>th</sup> December, 2003. Paul Hendrickse lecture theatre, University College Hospital, Ibadan, Nigeria. Convenor: Prof. Claude P. MullerUNESCO sub-regional seminar on biotechnology. Theme:

- Development through plant biotechnology. Date: Monday 2 January Friday 13 Jan. 1995. University of Ibadan, Ibadan Nigeria.
- ➤ Computer Application training (C.A.T.) Drop-in sessions IITA Training Computer Laboratory. Nigeria. Instructor Mrs. N.C. Woods

## 5. Teaching/Research Experience

(k) Professor/Director Food Security and Safety Niche Area (June 2015 - May 2018) Associate Professor (Jan 2013 - Dec 2015)/ Senior lecturer (Sept 2009 - Dec 2012)/ (Head of Department: March 2010 - Feb. 2012), Dept. Biological Sciences, Faculty of Agriculture, Science and Technology, North-West University, Mafikeng campus. Private bag X2046, Mmabatho, 2735, South Africa. Tel (work): +27 183892568; Cell numbers: +27786551839 and +27715769397, Fax: +27 183892134; Web: <a href="https://www.nwu.ac.za">www.nwu.ac.za</a>

## Work schedule:

**Research**: Set priorities, develop a work schedule, monitor progress towards goals, and track details/data/information/activities for the research projects;

Determine strategies to move the research project forward, set goals, create and implement actions plans, and evaluate the process and results;

Adopt and promote ethical standard in research protocols and best practices for project management.

## Taught/Research courses:

BGYM 214: Bacteriology and Microbial Ecology

**BGYM** 213: Introductory Genetics

MKBS 212: Introduction to Microbial Genetics

MKBS 211: Introduction to Microbiology

MKBS 316: Microbial Ecology

BGYM 313: Bacterial Metabolism

BGYM 212: Molecular Genetics and Biochemistry

BGYM 221/227: Advance Molecular Genetics

MKBS 223: Introduction to Recombinant DNA Technology and Bioinformatics

BMCM 613: Bacteriology

BMCM 622: Environmental and Industrial Microbiology

BGYM 371: Research Project

RESM 671: Postgraduate Honours Project

BIYM 871: MSc Research Project BIYM 971: PhD Research Project

## Project students advised (at NWU)

Degree students - 5 (2010), 5 (2011)

Honours students - 6 (2010), 3 (2011), 3 (2012), 4 (2013), 5 (2014), 3 (2015), 0(2016)

Masters students - 3 (2011/2012), 3 (2012/2013), 1 (2013/2014), 3 (2014/2015), 3(2015/2016)

PhD students - 1 (2011), 3 (2012), 5 (2013), 5 (2014), 5 (2015), 5 (2016)

Postdoctoral fellows- 1 (2011), 3 (2012), 5 (2013), 4 (2014), 4 (2015), 3(2016)

## Administrative: (and academic session).

- ✓ Director, Food Security and Safety Niche Area: May 2015 to date
- ✓ Coordinator, Faculty Quality Committee: March 2012 to Dec 2015. (Duties: coordinate quality activities in the Faculty; FAST; ensure an active Committee; coordinate all IPE's when due (e.g. receive plan for 2011- 2016 from Campus Quality Coordinator and be guided by it); work hand in hand with the teaching and learning, study guide, and research coordinators because what they do supports quality processes; prepare an update report for Faculty Board every time; a copy of which should be forward to Campus Quality Coordinator so that s/he can also update the Campus EXCO)
- ✓ Member, Sub-committee on external examiners: Oct 2014 to date
- ✓ Member, Faculty Research Committee: March 2012 to date
- ✓ Member, School Research Committee: April 2012 to 2013
- ✓ Subject Chair, Biological Sciences: March 2010 to Feb. 2012
- ✓ Member, Faculty Science Committee: March 2010 to Feb. 2012
- ✓ Member, Faculty Extended Management Committee: March 2010 to Feb. 2012
- ✓ Member, Senate Committee for Philosophical Grounding: May 2010 to 2016
- ✓ Member, Faculty Alignment Committee: March 2010 to Feb. 2012
- ✓ Member, Faculty Quality Committee: March 2010 to Feb. 2012

(i) Lecturer 1 (Oct. 2006- Sept 2009)/ Lecturer 11 (Oct. 2003- Sept 2006), Microbial Biotechnology, Department of Microbiology, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria.

## Work schedule:

Teaching and research. I contributed to the teaching of microbiological topics in undergraduate and graduate programs.

Student advised (Seminars and Laboratory projects):

Honours students - 40

Masters students - 5

Administrative: (and academic session).

Member, Faculty ethics of publication, grants and research committee 2008/2009

Member, Faculty week committee 2008/2009

Head, Missing results search team 2007/2008

Member, Departmental board of examiners 2006/2007

Final year student seminar/project coordinator 2005/2006

Assistant departmental postgraduate coordinator 2005/2006

Member, Faculty seminar committee 2005/2006

Course adviser, 100 level B.Sc. Microbiology students 2005/2006

## Undergraduate taught/research courses:

MCB 301: Microbial Genetic and Molecular Biology

Bio 305: Cell and Molecular Biology

Bio 303: General cytology Bio 208: General Physiology

Bio 002: Basic Physiology and Genetics

MCB 201: General Microbiology 1 MCB 202: General Microbiology 11

MCB 406: Microbial Ecology

MCB 401: Seminar Topics in Microbiology MCB 490: Research Projects in Microbiology

MCB 315: Bacteriology

MCB 311: Pathogenic Bacteriology

## Postgraduate taught/research courses:

Bio 803: Advanced Molecular Biology and Biotechnology

MCB 906: Advanced Molecular Genetics

MCB 814: Advanced Pathogenic Bacteriology

MCB 805: M.Sc. Research seminar MCB 901: Ph.D. Research seminar

MCB 821: Applied Microbiology/Microbial Genetics

MCB 899: Research Project Bio 804: Molecular Biology

(h) **Postdoctoral scientist (May 2007- Dec. 2008)**, Institute for Microbial Biotechnology and Metagenomics (IMBM), University of the Western Cape, South Africa.

#### My project entailed:

 Expanding the 16S rDNA framework for the genus Streptomycetes from specific extreme environments via metagenomics and culture-based techniques. The work involves current molecular biology techniques, and the use of bioinformatics.

#### Work schedule:

- Implementation of actinomycetes research project
- Day-to-day running of the research project
- Presentation of research outputs in form of papers at conferences
- Report writing and result presentation in manuscript form
- Other relevant duties as assigned by the Director

(g) **Postdoctoral fellow (July 2004 - March 2006)**, Life Science Building, Weizmann Institute of Science, Rehovot, Israel IL-76100.

## The project entailed:

Transgenically enhancing the virulence of fungi used as biocontrol agent via

- 1. Designing and use of failsafe mechanisms to prevent spread and introgression
- 2. Enhancing of virulence of *Fusarium* spp against *Orobanche*
- 3. Enhancing Colletotrichum against Abutilon
- 4. Enhancing Alternaria cassiae against Cassia senna.

## Work schedule:

- Set up experiments
- Implementation of research project
- Day-to-day running of the research project
- Data collection, input, statistical analysis
- Report writing and result presentation in manuscript form
- (f) Post-course trainee (May 2002 October 2002), Molecular Biology and Biotechnology Unit, International Centre of Insect Physiology and Ecology (ICIPE) Nairobi, Kenya. (Sponsor: OWSD) Training fundamentals (schedule):
- Plasmid isolation, Northern blotting, construction of genomic DNA libraries, DNA probe,
  Hybridization probe, utilization of public databases on the internet, polyacrylamide gel
  electrophoresis, fluorescent staining, Restriction fragment Length Polymorphism, Amplified fragment
  Length Polymorphism, Elisa, Phenotyping, DNA footprinting.
- Bioinformatics: Sequence retrieval and analysis, multiple sequence analysis, phylogeny reconstruction.
- (e) Dissertation Research Internship (DRIP) Scholar (July 2001 December 2001), Molecular Biology and Biotechnology Unit, International Centre of Insect Physiology and Ecology (ICIPE) Nairobi, Kenya. (Sponsor: OWSD)

#### Work schedule:

- Determination of ethylene production from bacterial isolates using gas chromatography and mass spectrometer
- DNA extraction, RAPD-PCR and targeted PCR amplification of ethylene producing bacteria
- Bacterial identification by API techniques
- Primer design

(d) Research scholar (January 2001 – June 2001), Kenya Sugar Research Foundation (KESREF) Kisumu Kenya. (Sponsor: OWSD).

## Work schedule:

- Pilot farm feasibility study of already established screen house work
- Establishment and management of multilocational on-farm research trials.
- Data collection, management and analysis using SAS for windows.
- Microbial plate counts of bacteria isolates obtained from cowpea Stand
- Ascertain probable effect of bacterial inoculum density and determination of inoculum threshold level
- (c) Visiting Research Fellow (July 1998 December 2000), Plant Health Management Division, International Institute of Tropical Agriculture (IITA) Ibadan, Oyo State.

## Work schedule:

- Isolation, purification, screening, and estimation of soil bacteria.
- Establishment and management of screen-house trials (*Striga*).
- Data collection, management and analysis using SAS for windows.
- (b) Laboratory assistant (January 1994 June 1994), Total Quality Control Department, Market Movers Nigeria Limited, Plot 22, Block 'A' Cocoa Industries Road, Ogba, Ikeja, Lagos. Duties:
- Ensuring the fruits to be processed meet all the buying specification of the company.
- Daily supervision of the Company's sanitary condition.
- Bacteriological examination of raw water.
- Supervision of the hygiene level of workers on production line.
- Ascertaining the microbiological quality of the finished products.
- Forwarding memorandum to Production Manager.
- Assessment of product recalls.
- (a) **Tutor (Nov. 1992 –Nov. 1993)**, School of Nursing, Ituk Mbang, Akwa Ibom State, Nigeria (NYSC primary assignment).
- 6. Publications (h-INDEX 13, Google scholar: all citations)
- (6a) Papers in refereed journals

#### 2002

1) Babalola O.O., Osir E.O., and Sanni A.I (2002) Characterization of potential ethylene-producing rhizosphere bacteria of *Striga*-infested maize and sorghum. African Journal of Biotechnology 1(2): 67–69. ISSN: 1684-5315. www.ajol.info/index.php/ajb/article/view/14819/58495

- 2) Babalola O.O., Osir E.O., Sanni A.I., Odhiambo G.D. and Bulimo W.D (2003) Amplification of 1-amino-cyclopropane-1-carboxylic (ACC) deaminase from plant growth promoting rhizobacteria in *Striga*-infested soil. African Journal of Biotechnology 2(6): 157-160. ISSN: 1684-5315. www.academicjournals.org/ajb/.../Babalola%20et%20al.htm
- 3) Babalola O.O (2003) Molecular techniques: An overview of methods for the detection of bacteria. African Journal of Biotechnology 2(12): 710–713. ISSN 1684–5315. www.academicjournals.org/AJB/contents/2003contentlist/December%202(12).htm 42k

#### 2004

- **4) Babalola O.O** (2004) Molecular diagnosis and typing of microorganisms. Science Focus 6:118–125. ISSN: 1596-7026
- 5) Babalola O.O. and Berner D.K. (2004) Observations on preconditioning duration of *Striga hermonthica* on maize and sorghum yield attributes. Science Focus 8:79–82. ISSN: 1596-7026
- 6) Babalola O.O., Sanni A.I., and Odhiambo G.D. (2004) Isolation of rhizobacteria associated with maize and assessment of their potential for use in *Striga hermonthica* (Del.) Benth. suicidal germination. Journal of Tropical Microbiology and Biotechnology 3 (1): 64–70. ISSN: 1607-4106. <a href="http://ajol.info/index.php/jtmb/article/view/35428">http://ajol.info/index.php/jtmb/article/view/35428</a>

#### 2005

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- 152) Babalola O.O, Sanni A. I. and Odhiambo G.D. (2001) Screening of three Striga hermonthica stimulating fluorescens bacteria for phytotoxicity in cowpea. Proceedings of the Horticulture Seminar on Sustainable Horticultural Production in the Tropics. 3<sup>rd</sup> 6<sup>th</sup> October 2001, Wesonga JM, Losenge T, Ndung'u CK, Ngamau K, Ombwara FK, Agong SG, Fricke A, Hau B, and Stutzel H.(eds). Department of Horticulture, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Juja-Kenya. ISBN: 9966-923-03-9
- **Babalola O.O**, Odhiambo G.D, and Sanni A. I. (2001) Study of the synergistic effects of *Pseudomonas* isolates 8mr5, 4mks8 and 10mkr7 on *Striga hermonthica*. 18<sup>th</sup> conference of the Weed

- Science Society of Eastern Africa (WSSEA). 29<sup>th</sup> October-2<sup>nd</sup> November 2001 Kenya Agricultural Research Institute hqr, Kaptagat road, Loresho, **Nairobi**.
- **Babalola O.O.**, Sanni A.I., Emechebe A.M., and Onilude A.A. (2000) Effect of bacterial application systems on *Striga hermonthica* infested maize (*Zea mays* l.). Page 34. Abstract of the 38<sup>th</sup> Annual Conference of Science Association of Nigerian (SAN), 10–14<sup>th</sup> Dec., 2000, Ogun State University, Ago-Iwoye, **Nigeria**. Sciencenigeria.org

## (6f) Dissertation Research Projects

- 2002, PhD Thesis: Interactions between Striga hermonthica (Del.) Benth. and fluorescent rhizosphere bacteria of Zea mays, L. and Sorghum bicolor L. Moench for Striga suicidal germination In Vigna unguiculata. University of Ibadan, Ibadan. <a href="http://twas.assaf.org.za:8080/browse?type=author&value=Babalola%2C+Olubukola+Oluranti">http://twas.assaf.org.za:8080/browse?type=author&value=Babalola%2C+Olubukola+Oluranti</a>
  - http://twas.assaf.org.za:8080/bitstream/handle/123456789/38/BABALOLA.pdf?sequence=1
- > 1996, MSc Thesis: Screening for nisin producing *Lactococcus lactis* in milk and milk products. University of Ibadan, Ibadan.
- ➤ 1992, BSc (Hons) Thesis: Quality control study of some processed fruit Juices: A case study of Caprisonne products. Ogun state University, Ago-Iwoye.

## 7. Networking

- 1) 2nd Thünen Symposium on Soil Metagenomics, 11 13 December 2013, www.soil-metagenomics.org. **Braunschweig, Germany**
- 2) SARIMA 2011 Conference. Preparing research innovation managers for the next decade. 08-10 June, Umhlanga, **Durban, South Africa**.
- 3) Indigenous knowledge and community innovations in the biosciences and biotechnology in Southern Africa. Regional symposium, 17-19 August 2010. Kwa Maritane lodge, **Pilanesberg, South Africa**.
- 4) BIO-08, a combined conference supported by the South African Society for Microbiology, Biotech SA and the South African Society for Biochemistry and Molecular Biology, (SASM Biotech SA SASBMB). Jan 21-25, 2008. Grahamstown, South Africa.
- 5) 2nd South Africa Proteomics and Genomics Conference, University of the Western Cape. 03-05 March 2008. Cape Town, South Africa.

#### 8. Research Interests

My research interests are centered on the application of molecular/irradiation biology techniques to understand:

Microbial biotechnology, molecular fingerprinting, soil metagenomics

- Molecular plant-microbe interactions, rhizosphere biology, biofertilizer, bioherbicides, Symbiosis, Rhizosphere Microbiome, New Concepts and Methods in the Rhizosphere, Below and Above Ground Interactions, Rhizo Remediation, Root Endophytes
- ➤ Biological control of noxious plants with microbes, plant pathogens
- > GMO, biosafety and biosecurity

## 9. Academic recognitions

## (9a) Invited Talks

- ➤ Jan 24-30, 2016, **Visiting Scientist**, CE3C Centre for Ecology, Evolution and Environmental Changes Faculdade de Ciências da Universidade de Lisboa, Edifício C2, Piso 5, Sala 2.5.03 Campo Grande, 1749-016 **Lisboa**, **Portugal**
- ➤ 5<sup>th</sup> Jan- 4<sup>th</sup> Feb 2016, visiting research scientist UMR CNRS 5557 Microbial Ecology of Lyon University Lyon 1, Bat. Mendel 43 Bd du 11 Novembre 1918 69622 Villeurbanne (Cedex) France.
- Oct 7- 21, 2015, Visiting Scientist, Department of Plant Pathology & Microbiology, Iowa State University, Iowa, USA.
- April 28th-30th 2015, **Panelist**. Knowledge Exchange Forum: Important early career milestones and support. Gender Summit 5 Africa. **Cape Town, South Africa**.
- ➤ Oct -21 Nov 2014, Guest lecturer/Visiting research scientist. UMR CNRS 5557 Microbial Ecology of Lyon University Lyon 1, Bat. Mendel 43 Bd du 11 Novembre 1918 69622 Villeurbanne (Cedex) France.
- ➤ August 18<sup>th</sup>-22<sup>th</sup> 2014, **Session Chair**. The Organisation for Women in Science for the Developing World (OWSD) Fellowship Holders Regional Workshop on Scientific Writing and Science Communication. CSIR International Convention Centre (ICC), **Pretoria**, **South Africa**.
- ➤ July 15<sup>th</sup> -18<sup>th</sup> 2013, **Speaker and Session Chair**. 6th Annual International Symposium on Agriculture, Athens Institute for Education and Research, **Athens, Greece**.
- ➤ June 19<sup>th</sup> -July 14<sup>th</sup> 2013, **Visiting**, National and Kapodistrian University of Athens, School of Sciences, Faculty of Biology, Department of Genetics and Biotechnology, **Athens**, **Greece**.
- September 13-15, 2012. Speaker and Session Chair: 3rd World Congress on Biotechnology, Hyderabad International Convention Centre, Hyderabad, India.
- ➤ May 2010, Exploitation of microbes. South Africa's celebration of the international year of biodiversity (by UNESCO, DST, NRF and SAASTA), Cooke's lake, Mafikeng, North West province, South Africa.
- February 2008, Effective studying and note taking technique, University of Stellenbosch, Stellenbosch, South Africa.
- > Visiting research scientist February 2007, Japan Atomic Energy Agency, Tokai-Mura, Japan.

## (9b) Professional avocation/responsibilities

- ✓ Member, advisory board, NGO SEHAT-India (Society for Environment, Health, Awareness of nutrition & toxicology).
- ✓ Host Institution Supervisor, Climate Impact Research Capacity and Leadership Enhancement Programme for sub-Saharan Africa (CIRCLE). The Association of Commonwealth Universities, UKaid.
- ✓ Member NRF Advisory panel for Agricultural Sciences (Thuthuka funding programme) 2013 present.
- ✓ Member NRF Advisory panel for Microbiology and Biochemistry (CPRR & CSUR funding programme) 2013 present
- ✓ Member review panels, Advisory sub-committee **GMO** act South Africa 2011-present.

## (9c) Manuscript reviews responsibilities

Acta Physiologiae Plantarum	2013- to date
Journal of Basic Microbiology	2013- to date
Journal of the Saudi Society of Agricultural Sciences	2013- to date
Polar Biology (Canada)	2011- to date
Applied Soil Ecology (USA)	2011- to date
Annals of Microbiology (Springer, USA)	2011- to date
Journal of Yeast and Fungal Research	2010 -to date
International Journal of Biological and Life Science	2010 -to date
International Research Journal of Agricultural Science	2009-to date
African Journal of Plant Sciences	2009 -to date
Journal of Horticulture and Forestry	2009 -to date
African Journal of Food Science	2008- to date
African Journal of Microbiology Research	2007- to date
African Journal of Biotechnology	2007 -to date

## (9d) External Assessor/examiner (funding and student thesis evaluation)

External examiner/moderator (Microbiology), University of Limpopo, Turfloop campus. 2016. SMIB 032, SCIN 082, SBTC 082, SMOL 081, SBTB 031, SMIC 080, BIOC 302, SANL 081, SBIC 080.

**MSc** (Microbiology), Rhodes University, South Africa. June **2015** (Miss Aviwe Fulmaka, g13F7779). Title: Investigating soil microbial interactions of Portulacaria afra.

External reviewer, Appointments and Promotions Committee, Faculty of Science, University of Fort Hare (2015)

**PhD** (Microbiology), VIT University, Vellore, India. Genetic Polymorphic Studies in *Heteropneustes fossilis* and *Clarias gariepinus* using Microsatellite Markers" **2015**.

PhD (Microbiology), Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. 2015. (Mr. K Rajesh).

MSC (Microbiology), University of Fort Hare. March 2015 (Ncedo Ntozonke, 200909172)

MSC (Microbiology), University of Fort Hare. Feb 2015 (Ms Busisiwe Makapela, 200906220)

MSC (Microbiology), University of Fort Hare. Jan 2015 (Ms Chinwe Juliana Iwu)

**PhD** (Nanotechnology), Anna University, Chennai, India, **2015** (Mr S. Satheeskumar). Title: "Synthesis, characterization and application of ZnMgAlO nano material".

Post-harvest Innovation Programme 2014

PhD (Microbiology), Ms. Shafaq Rasool, School of Biotechnology, Shri Mata Vaishno Devi University, Katra, J&K, India.

MSc (Microbiology), University of Fort Hare. June 2014 (Ms Nozuko Zukiswa Seti)

MSc (Microbiology), University of Fort Hare. June 2014 (Ms Andiswa Unathi Badela)

PhD (Microbiology), Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, 2014 (Mrs. P.

Priyadharsini). Title: "Diversity, Characterization and Bioherbicidal potential of terrestrial Actinobacteria against the selected weeds"

**PhD** (Environmental Science), University of Pune, Ganeshkhind, Pune-4111007, India, **2014** (Aparna B. Gunjal). Title: "A Technology for Developing Soil Conditioner through Microbial Enrichment of Agro-Industry By-Products"

**PhD** (Microbiology), North-West University, Potchefstroom campus, **2013** (Mrs SG Mulamattathil), Student No: 11284404).

**MSc** (Microbiology), University of Limpopo, Turfloop campus. **2013** (Ms. K Mokatse 200626704), Title: "Production, Characterization and Evaluation of Fungal Cellulases for Effective Digestion of Cellulose"

PhD student thesis evaluation, Bharathiyar University, Coimbatore, Tamilnadu, India, 2013

**PhD** (Environmental Science), University of Pune, Ganeshkhind, Pune-4111007, India, **2012** (Mrs. Nita Bhagwan Patil)

NRF Five Year Review of DST/NRF South African Research Chairs Initiative (SARChI) grant holder review assessment, 2013 (1 candidate)

NRF Thuthuka applications review panel 2013

NRF research funding (proposals) applications 2011(4 candidates), 2012(1 candidate), 2013(1 candidate), 2014 (Blue skies, 2 candidates)

PhD (Environmental Science), North-West University, Potchefstroom campus, 2012(1 candidate)

MSc (Microbiology), University of Fort Hare. Jan 2012 (Mr. SS Gusha)

MSc (Biochemistry), University of Fort Hare. Feb. 2012 (Mr. Fredrick Matongo)

MSc (Biochemistry and Microbiology), University of Fort Hare. 2010 (Zimasa N Cwala), 2011

**MSc** (Microbiology), University of Limpopo, Turfloop campus. **2011** (Ms. R Maribeng, Student No: 200402212, Title: Screening, isolation and characterization of lectins from mushrooms indigenous to Southern Africa)

MSc (Environmental Science), North-West University, Potchefstroom campus, 2011 (Ms. SL Ferreira, Student No: 13036912)

External examiner/moderator: Biochemistry and Microbiology undergraduate modules (MIC 312 June, July; MIC 511, 512 degree exam; MIC 311 June, degree exam; MIC 311 July, supplementary, Nov 2013, Jan 2014), University of Fort Hare, South Africa. 2012 to date

Biochemistry and Microbiology (Degree and Supplementary, MIC 311; Honours, MIC 511, 512, and 504/514), University of Fort Hare, South Africa. 2011

## (9e) Honors and Awards

- Established Researcher, National Research Foundation (NRF) Rating, (South Africa) Jan. 2012-2017:
   C3.
- 2. Fellow: African Scientific Institute (ASI) 2016
- 3. Fellow: Africa Science Leadership Program (ASLP) 2015
- **4.** Most productive female research, North-West University, FAST, Mafikeng campus, North-West University 2014.
- 5. Most productive NRF rated researcher Mafikeng campus, North-West University 2014.
- South Africa / Argentina Joint Science and Technology Research "Prospection, identification and characterization of cellulases coding gene for obtaining bioethanol" (Aug 2013) UID: 91990. R450, 000.
- 7. Indigenous Knowledge Systems Call 2013 (IKS12102214311) July 2013- June 2014. "Studies on the resident root-nodule bacteria from landraces of *Vigna subterranean* (Bambara groundnut). R500,000
- 8. Top 20% performer bonus (R36 686.00) 2013; (R40 701.00) 2014
- 9. Merit Bonus, for contribution to 2011 research output (R138 480.00) 2012
- **10.** Knowledge Interchange and Collaboration (**KIC**) funding, UID: 83109, 2013 (R35, 000), UID: 98460, 2015 (R25, 000).
- 11. Merit Bonus, Institutional Research Excellence Award (IREA) 2011
- 12. Merit Bonus, for contribution to 2010 research output (R19 944.30) 2011
- 13. Online Distance Learning, University of Bradford, UK, Applied Dual-Use Biosecurity Training Course Bursary, United States Department of State, Bioengagement Program (£1,860 Sterling) 2012.
- 14. Merit Bonus, Institutional Teaching Excellence Award (ITEA) 2011.
- 15. North-West University, Faculty (of Agric, Sci. & Tech) **Travel grant**. (R28, 000) for an international meeting, Sept. 2011, Italy.
- 16. Merit Bonus, Institutional Research Excellence Award (IREA) 2010.
- 17. Vice Chancellor's award (North-West University) for the **Top 20 employees** 2010.
- 18. North-West University, Faculty (of Agric, Sci. & Tech) Travel grant. (R21, 000) for an international conference, Nov. 2010, Egypt.
- 19. National Research Foundation, financial support UID73792 (R15, 000) to attend ICGEB-Biosafety Workshop, Sept 2010, Italy.
- **20.** North-West University, Faculty (of Agric, Sci. & Tech) **Research grant**, April 2010. Microbial diversity of Mmabatho municipality (R30, 000).
- 21. Award of Olabisi Onabanjo University Senate Research grant (OOU/SRG/07/5) (N200, 000), 2008.
- **22.** University of the Western Cape, NRF/UWC block grant for overseas conferences, May 11-15, 2008 Banff, Alberta, Canada
- 23. Network of Centers of Scientific Excellence, UNCTAD Advanced laboratory training in Biotechnology and Molecular biology, University of Cape Town, South Africa. October 16 2006 – January 16 2007.

- **24.** DBT-TWAS (2006, 12 months) Postdoctoral fellowship Award, Centre for Biotechnology-Jawaharlal Nehru University, New Delhi (Prof Uttam Pati). Gratefully declined
- **25.** Junior Investigator Award. National Institute of Standards and Technology (NIST, USA), (covers the registration fee, accommodation expenses, meals and drinks, and the Airport-Hotel-Airport transfers) to participate in *the IX International Workshop on Radiation Damage to DNA* held on May 13-17, 2006 in Tekirova, Antalya, Turkey.
- **26.** International Atomic Energy Agency (IAEA) Fellowship, for training in Plant Breeding and Genetics, administered by Weizmann Institute of Science (WIS) from September 2005 February 2006.
- 27. Beahrs Environmental Leadership Program, University of California at Berkeley. Partial scholarship, 22 June 16 July 2005, for training in Sustainable Environmental Management. Funded by the David and Lucile Packard Foundation.
- 28. Postdoctoral Fellowship: Feinberg Graduate School, Weizmann Institute of Science (WIS), Israel July 2004 August 2005.
- 29. Travel aid (for a conference in Paris): International Centre of Insect Physiology and Ecology (ICIPE) October 2002.
- **30.** Young Scientist Travel Award (for a conference in South Africa): International Union of Biochemistry and Molecular Biology (IUBMB). November 2001.
- 31. Doctoral fellowship: Third World Organization for Women in Science (TWOWS, now OWSD). Trieste Italy January 2001 31<sup>st</sup> December 2001, 14<sup>th</sup> May 2002 14<sup>th</sup> November 2002.
- **32.** Visiting Research Fellowship: International Institute of Tropical Agriculture (IITA), Training Program. July 1998 December 2000
- 33. Ogun State Governor, once-off bursary for BSc (Hons), 1992.

#### 10. Research Niche Area

Title: Food Security and Safety

Sub-programme 1: Plant Food production

#### 11. Professional association

Member, South African Council for Natural Scientific professions (SACNASP: 400260/10) 2010 to date

Member, Royal Society of South Africa (RSSA) 2010 to date

Member, South African Society for Microbiology (SASM) 2010 to date

Member, South African Society for Biochemistry and Molecular Biology (SASBMB) 2007 to date

Member, South African Women in Science and Engineering (SAWISE) 2010 to date

Member, Org. of Women Scientists for the Developing World (formerly, TWOWS; now OWSDW, ID 3591) 2000 to date

Member, The Science Advisory Board (SAB)

Member, American Society of Microbiology (ASM)

Member, Southern African Research and Innovative Management Association (SARIMA) 2011 to date

Member, South African Association of Women Graduates (SAAWG) 2010 to date Member, International Society for biosafety research (ISBR)

## 12. Community engagements

- Biotechnology enlightenment projects for the community by students in the Microbial Ecology course were organized annually
- A programme (Bio4LIFE) was developed for the rural areas concerning the importance of careful use
  of chemical fertilisers

## 13. Skills/Strength/Competency

- Good leadership skill: Many have testified to my high emotional intelligence. I am a role model amongst offspring's from my parents. I led the Department of Biological Sciences successfully in my tenure. I resolved conflict amicably. I am actively leading a group of upcoming scientists in Microbial Biotechnology. The team comprises of Hons, MSc, PhD students and postdoctoral fellows. I handled the Quality Control committee for my Faculty in a time saving manner.
- Excellent background in Biology: Besides my BSc (Hons), Msc and PhD in Microbiology, I demonstrated a good background in the design and layout of all my experiments (laboratory, screenhouse and field) techniques, enzyme activity assay methods, microbial ecology of bacterial-plant/fungal-plant relationships, isolation and identification of microbes (Microbial techniques). Evidently I have two international postdoctoral exposure in Biotechnology.
- I identified research problems, developed, analyzed and executed the proposals
- Statistical analyzes: I disseminated significant findings using SAS for Windows and JMP4.
- <u>Computer knowledge</u>: I handled Word Processing, Power Point presentations, Excel spreadsheet, Cricket Graph, Endnote and Reference manager, UNIX, and other operating systems. I am Conversant with workflow system (**Oracle**) and I used advance **eFUNDI**: to communicate with students, deposit teaching material, conduct assessment, and make announcement.
- Current molecular biology techniques: I managed a team of upcoming scientists in my research team on DNA extraction methods (genomic DNA, plasmid), RNA extraction methods (bacteria, fungi), RAPD, PCR (RT-PCR, Nested PCR, Quantitative real-time PCR, touchdown PCR, colony PCR), T-RFLP, AFLP, RFLP, ARDRA, DGGE, RNAi, Western blot, Southern blots, dot blots, DNA electrophoresis, protein electrophoresis (SDS polyacrylamide gel electrophoresis), principle of gene manipulation, construction and screening of a plasmid genomic (and metagenomics) DNA libraries, cloning (competence cell, transformation, enzymatic digest), sequence analysis, protein purification, and Tissue culture techniques.
- Strong communication skills and good written skill: This is evident in my prolific publication style. 2010 (5 single authored journal articles); 2011 (9 journal articles); 2012 (14 journal articles). To this end, I directed every student that passes under my mentorship to write and publish their research findings.

- <u>Interdisciplinary teams, and multicultural settings capacity:</u> I served in Nigeria (many years), Kenya (2 years), Israel (2 years), South Africa (>7 years), besides my other scientific endeavors in Africa, Asia, Europe, North America, and South America. I partnered with international scientists in my field:
- Working knowledge of bioinformatics: I implemented my routine research work in association with NCBI, Pubmed, Oligo (primer design), CLUSTALW, CLUSTALX, Blast, Multalign, DNAMAN, MEGA5, Internet information retrieval, Phylowin, TNT, BioEdit, PHYLIP, MP, MAFFT. I attended bioinformatics workshops to keep abreast of latest developments in the field.

## 14. Collaborators

Collaborator	Institution	Nature/Extent of
		partnership
Dr Katherine M.	National and Kapodistrian University of Athens, School	Research
Pappas	of Sciences, Faculty of Biology, Department of Genetics	
	and Biotechnology, Athens, Greece	
Dr Eugenia Barros	The Council for Scientific and Industrial Research	Research/co-
	(CSIR) in South Africa.	supervision
Dr Claire Prigent	UMR CNRS 5557 Microbial Ecology of Lyon	Implementation of
Combaret	University Lyon 1, Bat. Mendel	joint research
	43 Bd du 11 Novembre 1918	projects, book
	69622 Villeurbanne (cedex) - France	chapter,
Prof Bernard R. Glick	Department of Biology, University of Waterloo,	Publications
	Canada	
Dr Paola Monica Talia	Instituto de Biotecnología CICVyA, CNIA INTA	Implementation of
	Castelar. Los Reseros y Las cabañas s/n Hurlingham.	joint research
	Argentina	projects
		Student exchange
Dr Dhanasekaran	Department of Microbiology Bharathidasan University,	Publication, expert
Dharumadurai	Tiruchirappalli - 620024. Tamil Nadu, <b>India</b>	committee member,
		reviewers, evaluation
Prof Gwyn A. Beattie	Department of Plant Pathology & Microbiology	Research
	Iowa State University, Iowa, <b>USA</b>	
Dr Stefan Marius	"Alexandru Ioan Cuza" University, Faculty of Biology,	Implementation of
	B-dul. Carol I, nr. 20 A, 700506, Iasi, Romania	joint research
		projects
Prof Cristina Cruz	CE3C - Centre for Ecology, Evolution	Research
	and Environmental Changes	
	Faculdade de Ciências da Universidade de Lisboa,	
	Edifício C2, Piso 5, Sala 2.5.03	
	Campo Grande, 1749-016 Lisboa, <b>Portugal</b>	

#### **15.** News

# Raven in Argentina

http://intranet.inta.gob.ar/noticias/boletin-de-noticias/boletin-301/compartir-el-conocimiento-para-crecer-juntos

# Tumelo in Argentina

http://inta.gob.ar/noticias/argentina-es-el-lugar-elegido-por-tesistas-extranjeros

## 16. Personal interests

Traveling, cuisine, swimming

## 16. Referees

#### Prof Diran Makinde

Director, AU/NEPAD-African Biosafety Network of Expertise (ABNE) University of Ouagadougou, 06 BP 9884 Ouagadougou 06, **Burkina faso** 

Tel: +226 50 33 15 01; Cell: +226 76 69 02 10 **Email**: diran.makinde@nepadbiosafety.net

## Prof Anthony I. Okoh

Department of Biochemistry & Microbiology, Applied & Environmental Microbiology Research Group (AEMREG), University of Fort Hare, Private Bag X1314, Alice 5700, **South Africa**.

Tel: +27406022365 (office); +27822249760 (cell), Fax: +27866286824

Email: AOkoh@ufh.ac.za

## Prof Bernard R. Glick

Department of Biology, University of Waterloo, Waterloo, Ontario, N2l 3G1, Canada

Tel: (519)888-4567 ext. 5208; Fax: (519) 746-0614.

Email: glick@sciborg.uwaterloo.ca

## Prof (Mrs.) Eucharia Unoma Kenya

Biotechnology, Biosafety & Biosecurity Consultant International Centre for Health Interventions & Research in Africa P.O. Box 76662 - 00508, Yaya Towers; Tel: +254 722 721 435

Nairobi, Kenya.

Email: eucharia.kenya2012@gmail.com

#### Prof Abiodun I. Sanni

Department of Microbiology, Faculty of Science, University of Ibadan, Ibadan, Nigeria

Tel: +2348023341920. Email: abiodun\_sanni@yahoo.co.uk

## **Prof Chris Gehring**

Division of Chemistry, Life Science & Engineering, Building 2, Room 4222

P.O. Box # 2035 4700 King Abdullah University of Science and Technology

Thuwal 23955-6900. Kingdom of Saudi Arabia

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E-mail: <a href="mailto:christoph.gehring@KAUST.edu.sa">christoph.gehring@KAUST.edu.sa</a>

## Dr Ellie Osir, Ph.D.

Senior Program Specialist

Innovation, Policy and Science (IPS), Regional Office for Southeast and East Asia (ASRO),

International Development Research Centre (IDRC),

22 Cross Street, #02-55, South Bridge Court, **Singapore**. Tel: +65-6438-7877; Fax: +65-6438-4844. **Email**:

eosir@idrc.org.sg

## 17. Post graduate students (for the period at NWU)

Prior to joining NWU: Graduated 47 Hons, and MSc

At NWU: 22 Hons, 7 Msc, and 3 PhD

Degree	Student	Supervisor	Result
BSc (Hons) research projects students			
2010	Madyibi Lorato M (18037852)	Babalola OO	Pass
2010	Bumunang Emmanuel M (22048219)	Babalola OO	Pass
2010	Sebogodi Keletso M (17099587)	Babalola OO	Pass
2010	Ndeddy Aka Robison (18022200)	Babalola OO	Pass (characterization and identification of enterobacteriaceae from fresh bovine tripe)
2011	Mokone Peter Ho (18035302)	Babalola OO	Pass
2011	Kodisang Seiphepo Lena (23409525)	Babalola OO	Pass
2011	Akindolire Muyiwa Ajoke (22826424)	Babalola OO	Pass
2012	Mogatianyane Keneilwe (21449090)	Babalola OO	Pass
2012	Esau Boipelo (21910040)	Babalola OO	Pass
2012	Motlagomang Khantsi (16162749)	Babalola OO	Pass
			Faculty Prize, Overall 2 <sup>nd</sup> Best Hons
			Student NWU, 2012, distinction in
			Hons thesis, Best PG student, 2013.
2013	Motsewabangwe KR (21472807)	Babalola OO	Pass
			Overall winner in the national
			FameLab competition, National
			Science Festival (Scifest) Grahamstown
			in 2013.

2013	Gae Neo A (21981183)	Babalola OO	Pass
2013	Kupi T (21508690)	Babalola OO	Pass
2013	Thebe Tumelo (22615865)	Babalola OO	Pass
2013	Rorisang Wendy Mmeno (21986762)	Babalola OO	Pass
2014	Adem Mohomud (21888205)	Babalola OO	Pass
2014	Mongadi Khomotso (21407398)	Babalola OO	Pass
2014	Mokgakane lindiwe (23129840)	Babalola OO	Pass
2014	Motete Tshoganyetso (23145889)	Babalola OO	Pass
2014	Frankel Thabiso (23264748)	Babalola OO	Completed, DST/NRF intern 2014
2014	Serumula Ketshepile Beverly (23251905)	Babalola OO	Pass
2014	Chukwuneme Chinenyenwa Fortune (25540122)	Babalola OO	Pass
2015	Onkemetse Mosetlhe (23789700)	Babalola OO	Pass

Masters' disser	Masters' dissertation students				
Duration	Student	Supervisor	Result		
2011-2013	Bumunang Emmanuel M (22048219) Impact of field grown genetically modified corn on indigenous rhizobacteria	Babalola OO	Pass. Published 3 articles, and 1 conference abstract. Faculty 2013 best MSc student award (R40, 000). Another article is under consideration		
2011-2013	Sebogodi Keletso M (17099587) Molecular characterization of iron and sulfur oxidizing bacteria from Kalgold mine	Babalola OO	<b>Pass.</b> Nationwide best presenter DST/NRF interns 2012.		
2011-2013	Kedibone Masenya (23405805)  Determination of microbial community structure of bacteria from Mafikeng and Zeerust townships	Babalola OO	Pass. Published an article.		
2012-2013	Ajilogba Caroline F (23703563)  Molecular characterization of native Bacillus spp with biocontrol potential for Fusarium wilt of tomato	Babalola OO	Pass. Published 2 articles, 2 articles are under consideration, Faculty Prize, Overall 2 <sup>nd</sup> Best MSc Student NWU, 2012, SASM 2013 student attendance award		
2012-2013	Modise Lorato M (18037852) Analysis of bacterial communities in cultivated plants rhizosphere of Mahikeng in the North-West Province	Babalola OO	Pass. An article is under consideration		
2012-2014	Ajoke M Akindolire (22826424)	Ateba CN and	Pass. Published an article		

	Detection and Molecular Characterization	Babalola OO	
	of Virulence Genes in Antibiotic Resistant		
	Staphylococcus aureus From Milk Using		
	PCR analysis		
2012-2016	Ndeddy Aka Robison (18022200)	Babalola OO	Published an article.
	Identification and characterization of		Submitted another
	heavy metal-tolerant bacteria isolated		manuscript
	from mine tailings and their potential use		-
	for phytoextraction		
2013-2016	Motlagomang Khantsi (16162749)	Babalola OO	Ongoing
2014-2016	Motsewabangwe K. Raven (21472807)	Babalola OO	Ongoing, Argentina
			exchange bilateral project
2014-2016	Thebe Tumelo (22615865)	Babalola OO	Ongoing, Argentina
			exchange bilateral project
2015-2016	Mokgakane Lindiwe (23129840)	Babalola OO	Ongoing, Protea exchange
			bilateral project/ Innovation
			masters scholarship 2015
			NRF
2015-2016	Oluseyi Samuel Olanrewaju (26704005)	Babalola OO	Ongoing
2015-2016	Oluwadara Pelumi Alamu	Babalola	Ongoing
	(26689189)	OO/Mwanza	
		M	
2015-2016	Olalekan Ayodele Adedayo	Babalola OO	Ongoing
	(27048187)		
2016-2017	Rorisang Wendy Mmeno (21986762)	Babalola OO	Ongoing
2016-2017	Refiloe Octavia Lecogo (22646795)	Babalola	Ongoing
		OO/Manjoro	
		Munyaradzi	
2016-2017	Neo Gae (21981183)	Babalola OO	Ongoing

PhD theses s	students				
Duration	Student	Supervisor	Result		
2011-2015	Adegboye Mobolaji	Babalola OO	Pass. Published 7 papers. Faculty Prize, overall		
	Felicia (23229926)		2 <sup>nd</sup> Best PhD Student NWU, 2012. Faculty		
			2013 best PhD student award (R80, 000).		
			SASM 2013 student attendance award.		
			Recipient H3abionet/sanbio scholarships for		
			short-term training for Phd students.		
2012-2016	Aremu Rhoda	Babalola OO	Pass. Published two articles. Has two		
	Bukola (23925523)		manuscripts accepted. Winner 1st Prize		
			SASM2016 best PhD student presentation.		
2013-2016	Egbuta Mary	Babalola	<b>Submitted.</b> An article is under consideration.		
	Augustina	OO/Mwanza M	Recipient H3abionet/sanbio scholarships for		

	(23703563)		short-term training for Phd students. Faculty 2014 best PhD student award (R80, 000).
2012-2016	Esuola Catherine Oluwakemi (24054887)	Babalola OO/ Schlömann M./ and Tischler D.	Writing up. (DAAD, Germany). An article is under consideration
2013-2016	Fashola M Omotola (24804460)	Babalola OO/Ngole V	Writing up. Published an article. An article is under consideration. Faculty 2015 best PhD student award (R80, 000). Winner SASM 2016 travel award
2014-2016	Ajilogba Caroline F (23703563)	Babalola OO	Ongoing. Faculty 2015 best PhD student award (R80, 000). Winner SASM 2016 travel award
2015-2017	Adeniji Adetomiwa Ayodele (26352842)	Babalola OO	Ongoing
2016-	Adegboyega Taofeek Temitope	Babalola OO	Ongoing
2016-	Ayangbenro Ayansina Segun (28072693)	Babalola OO	Ongoing, 2016 NRF–TWAS African Renaissance Doctoral Fellowships SFH150929143105
2016-	Masowa Manare Maxson	Kutu FR/Babalola OO	Ongoing

Exchange students/scientists hosted and the source of funds				
Duration	Fellow	Institute/Country of origin Source		
2 months, 2013	Olorunjuwon Bello	Olabisi Onabanjo University, Nigeria	TETFund	
30 days, August	Ben Guerrero Emiliano	Instituto de Biotecnología CICVyA,	SA/Argentina	
2014		CNIA INTA Castelar, Argentina	bilateral	
30 days, June	Facundo Felix	Instituto de Biotecnología CICVyA, CNIA	SA/Argentina	
2015		INTA Castelar, Argentina	bilateral	
6 months, June -	Adesetan Titilayo	Olabisi Onabanjo University, Nigeria	TETFund	
Nov 2015				

Postdoctoral Fellows				
Duration	Fellow	Host	Status	
Oct 2011 to Sept 2014	Dr Faheem Ahmad (23849843), PhD,	Babalola OO, NWU	Done	
2013-SFP12091512869	AMU, India			
Jan 2012 to May 2014	Dr Lubanza Ngoma (24014028), PhD,	Babalola OO, NWU	Done	

	Wits, SA		
Jan 2012 to July 2014	Dr Hamid Igbal Tak (24037699), PhD	Babalola OO, NWU	Done
2013-SFP12090312175	AMU, India		
Jan 2013 to Jan 2014	Dr Ezekiel Lawal (24870552), PhD UI,	Babalola OO, NWU	Done
	Nig.		
Nov 2013 to Jan 2015	Dr Olajire Michael Dare (25665197),	Babalola OO, NWU	Done
	PhD UI, Nig.		
Jan 2015 to Dec 2015	Dr Elizabeth Temitope Alori	Babalola OO, NWU	Done
	(26940922) PhD Ilorin, Nig.		
Jan 2015 to Jan 2016	Dr Abeer Ahmed Qaed Ahmed	Babalola OO, NWU	Done
	(26923408) PhD, CIB, China		
July 2014 to date	Dr Shivakumar P. Banakar (26426803)	Babalola OO, NWU	Ongoing
	PHD, KU, India		
May 2015 to date	Dr Mobolaji Felicia Adegboye	Babalola OO, NWU	Ongoing
2016-SFP150731133595	(23229926) PhD, NWU, SA		
	Awardee NRF scarce skill postdoctoral		
	fellowship		
2016	Dr Renganathan Seenivasagan Periyar	Babalola OO, NWU	Ongoing
	University, India		

# 18. Research funds

Funds source/project title	PI	Duration	Status	Amount
Incentive Funding for Rated Researchers 2012	OOB	7 years	2012-2017	R40,000
(IFR1203150666; UID:81192)				PA**
Indigenous Knowledge Systems Call 2013	OOB	1 year	2013-2014	R500,000**
(IKS12102214311; UID 86625) "Studies on the				
resident root-nodule bacteria from landraces of Vigna				
subterranean (Bambara groundnut)				
Knowledge Fields Development (Development	OOB	1 year	2013	R35,000**
Grants) UID: 83109				
South Africa / Argentina Joint Science and Technology	OOB &	3 years	2014-2016	R450,000
Research "Prospection, identification and	Dr Talia			
characterization of cellulases coding gene for obtaining	Paola			
bioethanol"(Aug 2013) UID: 91990				
http://www.mincyt.gob.ar/convocatoria/programa-de-				
cooperacion-mincyt-dst-sudafrica-2013-8011				
NRF/Protea Joint call 2014. Protection of maize by	OOB &	2 years	2014/2015-	R137,100**
Pseudomonas Plant Growth Promoting Rhizobacteria	Dr Claire		2015/2016	
against Fusarium graminearum (FSTR14070673999;	Prigent-			

UID95111)	Combaret			
Knowledge Interchange and Collaboration	OOB	1 year	2015	R25,000**
(Conference Grants) (KIC150916142751; UID:				
98460)				
UK - South Africa Researcher Links Mobility 2016	OOB	1 month	2016	R50,000*
160215158213				

Amount requested

# Citation indices

	All	Since 2010
Citations	726	567
h-index	14	12
i10-index	18	15



Prof BABALOLA Olubukola Oluranti J29/59/71/72/73/74/75/B\_Vac

<sup>\*\*</sup> Amount already granted