

## Curriculum Vitae: Santie de Villiers

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### Education

**2000:** PhD (Microbiology, Plant Biotechnology) University of Cape Town, SA  
**1992:** MSc (Biochemistry) University of Stellenbosch, SA  
**1990:** BSc Honnours (Biochemistry) University of Stellenbosch, SA  
**1989:** BSc (Microbiology and Biochemistry) University of Stellenbosch, SA

### Summary of work experience

**Since February 2017:** Associate Professor, Pwani University, Department of Biochemistry and Biotechnology. This position entails teaching courses to undergraduate and MSc students on Biotechnology, Bioinformatics, Statistics and related topics as well as supervising students research projects, writing grant proposals, building research capacity and conducting my own research at this young University.

**January 2013 – January 2017:** Senior lecturer, Pwani University.

**January 2011 – October 2012:** Senior scientist in Biotechnology, International Crops Research Institute for the Semi-Arid Tropics - Eastern and Southern Africa (ICRISAT-ESA), based in Nairobi. I coordinated all regional Biotechnology activities on ICRISAT mandate crops, which are sorghum, millets, pigeonpea, chickpea and groundnut. This included genetic transformation, genomics and molecular marker applications in all aspects of crop improvement. In addition I led capacity building activities including co-supervision of post-graduate students (5 PhD and more than 20 MSc) as well as coordinating and teaching courses for international organizations on molecular marker applications in crop Improvement. Since 2010, I have also mentored 3 AWARD fellows . 2 BSc and currently 1 PhD.

**August 2005 – January 2011:** Scientist in Biotechnology, ICRISAT-ESA, Nairobi.

**April 2002 - August 2005:** Break in scientific career to raise children.

**July 2001 - April 2002:** Agricultural biotechnology consultant for the South African grain industry.

**May - December 2000:** Post-doctoral research fellowship at Plant Research International, Wageningen, Netherlands.

**1999 - June 2001:** Senior researcher, Plant Biotechnology, Roodeplaat Vegetable and Ornamental Plant Institute of the Agricultural Research Council of SA.

**1990 - 1999:** Researcher, Plant Biotechnology, ARC-Roodeplaat.

### Research responsibilities:

At PU, I have initiated genomics research on finger millet and coconut as well as coral reefs, seagrass and mangroves. This entails optimisation of DNA extraction procedures, DNA analysis through marker applications and/or sequencing and Bioinformatics analysis of the data.

I have facilitated the donation of a stand-alone Bioinformatics server (eBiokit) from the SLU to Pwani University at the end of 2013. This server enables Bioinformatics research and teaching without the need of a connection to the Internet.

Previously at ICRISAT, I coordinated all biotechnology research in eastern and southern Africa in collaboration with national and international partners. This entailed liaising locally with NARS, universities and international institutions for access to appropriate research facilities, developing proposals, training of technical staff and scientists and supervising post-graduate students in the following activities:

- Genomics and molecular marker research, including NGS marker development and optimization, QTL mapping and trait association.
- SSR genotyping for genetic diversity analysis.
- Marker assisted selection and back-crossing for introgression of target traits such as drought tolerance and disease/pest resistance into ICRISAT mandate crops.
- Development of genetic fingerprinting techniques for cultivar identification and seed-purity testing in groundnut and pigeonpea.
- Environmental risk assessment for the future release of genetically engineered sorghum using a genotyping and population genetics approach.
- Tissue culture and genetic transformation of groundnut and pigeonpea.

#### **Research Grants:**

- NSF-BREAD ABRDC (2016); Co-PI %Development of Essential Genetic and Genomic Resources for Finger Millet+- \$ 1,800 000 over 4 years.
- BMGF-PEARL II (2015); PI %Unraveling the molecular genetics of finger millet blast disease and the existing resistance for the development of high-yielding resilient varieties+. \$ 500 000 over 4 years
- SLU-UFORSK (2016); Co-PI %Metagenomics investigation to assess anthropogenic impact on West Indian Ocean coral reefs. An indicator of coral reef health.+ \$ 300 000 over 3 years
- BBSRC-BMGF-SCPRID (2012); Co-PI %Smart' cereals for management of stem borer pests in staple cereals in Africa+. £ 625 000 over 4 years
- Bio-Innovate (2011); Co-PI %Delivering New Sorghum and Finger Millet Innovations for Food Security and Improving Livelihoods in Eastern Africa+- \$ 1 255 000 over 3 years
- USAID Feed-the-Future, Zambia (2011); Co-PI %Improving groundnut farmer incomes and nutrition through innovation and technology enhancement+ - \$ 5 367 000 over 5 years
- Irish Aid (2010); Co-PI %Malawi Seed Industry Development+, supplementary proposal - \$ 300 000 over 1 year

#### **Supervision:**

##### **PhD co-supervisor for:**

- Hadrien Gourle (2016 . 2020) %Metagenomics investigation to assess anthropogenic impact on West Indian Ocean coral reefs. An indicator of coral reef health.+(Swedish University of Agricultural Sciences)
- Sammy Wambua (2016 . 2020) %Metagenomics approaches to assess anthropogenic impact on the coral reefs of the Kenyan Coast.+(University of KwaZulu-Natal, South Africa)
- Dagnachew Lule (2015) %Assessment of genetic diversity, blast (*Magnaporthe oryzae*) disease resistance, genotype by environment interaction and blast resistant marker development for finger millet germplasm collected from Ethiopia+(Addis Ababa University)
- Eric Manyasa (2014) %A study of the diversity, adaptation and gene effects for blast resistance and yield traits in East African finger millet (*Eleusine coracana* (L.) Gaertn) landraces+(University of KwaZulu-Natal)
- Moses Muraya (2009) %Genetic diversity and mating system of wild sorghum in Kenya and adaptive value of wild x cultivated sorghum hybrids+(University of Hohenheim)

- Evans Mutegi (2009) Crop-to-wild gene flow: Environmental risk assessment for the release of genetically modified sorghum in Kenya (University of the Free State, SA)

**MSc research supervisor for:**

- Davies Kaymenyi (ongoing) Metagenomic analysis of microbiomes from seagrass found in coastal Kenya using 16s rRNA sequencing+
- Justus Charo Masha (ongoing) Genetic diversity assessment of Kenyan coconut germplasm using SSR markers+(Pwani University)
- Tadesse Yohannes (2013) Marker-assisted breeding for *Striga* resistance in an Eritrean sorghum variety+(University of Nairobi)
- Vincent Njunge Michael (2013) Evaluation of the genetic diversity of Malawian pigeonpea using simple sequence repeats markers+(University of South Africa . UNISA)
- Davis Musia Gimode (2013) Identification of microsatellite markers for finger millet (*Eleusine coracana*) by analysis of Roche-454 GS-FLX Titanium sequence data+(Kenyatta University)
- Theogene Niyibigira (2012) Transferring *Striga* resistance QTL from a resistant donor source into a Rwandan adapted sorghum variety+(University of Nairobi)
- Wilson Kimani (2012) Transferring drought tolerance of the Stay-green trait in sorghum from E36-1, an Ethiopian line, into Ochuti, a farmer-preferred Kenyan variety+(University of Nairobi)
- Pauline Asami (2011) An optimized protocol for transformation of pigeon pea (*Cajanus cajan* (L.) Millsp) adapted to east and southern Africa+(Kenyatta University)
- Esther Wanja Kahariri (2011) *Agrobacterium tumefaciens*-mediated transformation of three groundnut (*Arachis hypogaea*) genotypes from Southern and Eastern Africa. (Kenyatta University)
- Geoffrey Meru Mugambi (2010) Genotyping BC<sub>3</sub>F<sub>2</sub> populations of four Ethiopian sorghum varieties for StayGreen introgression through marker-assisted selection with SSRs+(Kenyatta University)
- Timothy Taity Changa (2010) Genetic transformation of pigeon pea (*Cajanus cajan*) varieties adapted to eastern and southern Africa. (Kenyatta University)
- Susan Muthoni Maina (2010) Evaluation of regeneration response in tissue culture of selected groundnut (*Arachis hypogaea*) varieties adapted to eastern and southern Africa+(Kenyatta University)

**Collaborations, Professional expertise and Training/Teaching experience:**

- Associate Professor at Pwani University, teaching 6 modules with practical sessions per year since January 2013
- AWARD mentor for 3 African women between 2009 and 2014
- Coordinator and co-presenter of training courses in various aspects of Molecular Marker Applications in Crop Improvement
  - o Irish Aid, October 2010
  - o BBSRC-SARID, August 2011
  - o ASARECA-ABCIC, August 2011
  - o USAID-FtF Zambia, Dec 2011
  - o CAPACITATE East Africa, May 2012
- Hosted as ICRISAT scientist at the ILRI/BecA research platform, which entailed extensive interaction and collaboration with BecA scientists.
- Member of the ILRI Institutional Biosafety Committee from 2006 to 2011.
- Informed a panel of experts on sorghum risk assessment, gene flow and biology in Africa by presenting the results of the project Environmental Risk Assessment of Genetically Engineered Sorghum in Kenya and Mali. The results of this discussion were published by Hokanson et al. (2010) in Nature Biotechnology, 28(9):900-903.

- External evaluator for the South African National Research Foundation (NRF), which ranks all scientists in public institutions for funding allocations.
- Member of the organizing committee of the 1<sup>st</sup> All Africa Biotechnology Congress, 23 - 26 Sept 2008, Nairobi, Kenya
- Associate editor (2008 - 2012): *In Vitro Cell Development Biology* . Plant (Springer) and *South African Journal of Botany* (Elsevier)

#### **Administrative responsibilities:**

At PU, I am engaged in several administrative responsibilities:

- Acting chair of the Department of Biochemistry and Biotechnology when needed, most recently for two weeks from 27 June - 8 July, 2016
- Pwani University Biosciences Research Centre (PUBReC) Secretary of the Steering Committee since 2014. This committee has met regularly every 1-2 weeks for most of this time and I represent PU and am responsible for organising the meetings and taking minutes.
- I was a member of the PU Strategic Plan 2014-2024 committee.

#### **Courses attended:**

- Advanced Leadership and Management workshop, October 2016, London, UK
- Leadership and Management workshop, October 2015, Seattle, USA
- Research proposal writing workshop, January 2015, San Diego, USA
- Enhancing negotiation skills for women, September 2013, Kenya
- Genotyping-by-Sequencing training workshop, May 2013, Kenya
- Positive work-life fulfilment, May 2012, Kenya
- AWARD Women's Leadership and Management course, November 2011, Ghana

#### **Consultancies:**

- Science advisor to AWARD (African Women in Agriculture Research and Development) since Nov 2014.
- Advised parastatal bodies and industries in South Africa on various aspects of Genetically Modified Organisms (GMO's).
- Compiled an Inventory of Biotechnology for Southern Africa for IITA (2004).

#### **Community service:**

- Secretary to the Governing Board of Kesho Organization, a charitable organization in Kilifi County, which supports the poorest children in and around Kilifi through school and further education.
- Patron of the Pwani University Biochemistry Student Association (PUBSA)

#### **Scientific publications in peer-reviewed journals:**

I have published 24 internationally peer-reviewed papers over the past 10 years (3 first author, 15 co-author and 6 senior author). ResearchGate, the world-wide acknowledged professional web-site documenting scientific prowess, indicates that I have an overall rating of 20.21 and my papers have been read 1,215 times and cited 158 times.

- D Gimode, DA Odeny, EP de Villiers, S Wanyonyi, MM Dida, EE Mneney, A Muchugi, J Machuka and **SM de Villiers** (2016) Identification of SNP and SSR markers in finger millet using next generation sequencing technologies. *PLOS ONE* 11(7): e0159437. doi:10.1371/journal.pone.0159437
- Tesfaye Disasa, Tileye Feyissa, Belayneh Admassu, Rajneesh Paliwal, **Santie de Villiers**, Damaris Achieng Odeny (2016) Molecular evaluation of Ethiopian sweet sorghum germplasm and their contribution to regional breeding programs. *Australian Journal of Crop Science* 10(4):520-527
- Brhan Khair Saleh, Remmy W Kasili, Eduard George Mamati, Kouadio Nasser Yao, **Santie de Villiers**, Woldeamlak Araia, Aggrey Bernard Nyende (2016) Genetic diversity and population structure of Eritrean pepper (*Capsicum species*) as revealed

- by SSR markers. *Molecular Plant Breeding* **7**(11):1-16
- Vincent Njung'e, Santosh Deshpande, Moses Siambi, Richard Jones, Said Silim and **Santie De Villiers** (2015) SSR genetic diversity assessment of popular pigeonpea varieties in Malawi reveals unique fingerprints. *Electronic Journal of Biotechnology* **21**:65-71
  - Tadesse Yohannes, Tesfamichael Abraha, Dan Kiambi, Rolf Folkertsma, C Tom Hash, Kahiu Ngugi, Eunice Mutitu, Negusse Abraha, Mussie Weldetsion, Charles Mugoya, Clet W Masiga and **Santie de Villiers** (2015) Marker-assisted introgression improves *Striga* resistance in an Eritrean farmer-preferred sorghum variety. *Field Crops Research Field Crops Research* **173**: 22. 29, <http://dx.doi.org/10.1016/j.fcr.2014.12.008>
  - **Santie M de Villiers**, Vincent N Michael, Eric Manyasa, Annis N Saiyiorri and Santosh Deshpande (2015) Compilation of a reference microsatellite kit for the genetic characterisation of cultivated finger millet (*Eleusine coracana*). *Electronic Journal of Biotechnology* **18**:77-82, <http://dx.doi.org/10.1016/j.ejbt.2014.12.001>
  - Ncube Kanyika BTC, Lungu D, Mweetwa AM, Kaimoyo E, Njung'e VM, Monyo ES, Siambi M, He G, Prakash C, Zhao Y, **De Villiers SM** (2015) Identification of groundnut (*Arachis hypogaea*) SSR markers suitable for multiple resistance traits QTL mapping in African germplasm. *Electronic Journal of Biotechnology* **18**:61-67.
  - Dagnachew Lule, **Santie de Villiers**, Masresha Fetene, Teshome Bogale, Tesfaye Alemu, Geleta Geremew, Getachew Gashaw and Kassahun Tesfaye (2014) Pathogenicity and yield loss assessment caused by *Magnaporthe oryzae* isolates in cultivated and wild relatives of finger millet (*Eleusine coracana*). *Indian Journal of Agricultural Research* **48**(4):258 - 268
  - Dagnachew Lule, Masresha Fetene, **Santie de Villiers** and Kassahun Tesfaye (2014). Additive Main Effects and Multiplicative Interactions (AMMI) and genotype by environment interaction (GGE) biplot analyses aid selection of high yielding and adapted finger millet varieties. *Journal of Applied Biosciences* **76**:6291. 6303 <http://dx.doi.org/10.4314/jab.v76i1.1>
  - Manyasa EO, Tongoona P, Shanahan P, Mgonja MA and **De Villiers S** (2014). Genetic diversity in East African finger millet (*Eleusine coracana* (L.) Gaertn) landraces based on SSR markers and some qualitative traits. *Plant Genetic Resources: Characterization and Utilization* **1–11** doi:[10.1017/S1479262114000628](https://doi.org/10.1017/S1479262114000628)
  - Dagnachew Lule, **Santie de Villiers**, Tesfaye Sewalem, Mathew Dida, Masresha Fetene and Kassahun Tesfaye (2014) Diversity and Eco-geographical distribution of *Eleusine* species collected from Ethiopia. *African Journal of Crop Science* **22**:45-58
  - Theogene Niyibigira, Kahiu Ngugi, **Santie de Villiers**, Dan Kiambi, Eunice Mutitu, Sarah Osama, Abigail J. Ngugi, Mohamed Abdalla, Rasha Ali, Charles Mugoya, Clet Masiga, Daphrose Gahakwa (2013) Introgressing *Striga* resistance from a mapped donor source into a Rwandan adapted sorghum variety. *Journal of Renewable Agriculture* **1**:6-10 DOI: 10.12966/jra.04.02.2013
  - Dagnachew Lule, Kassahun Tesfaye, Masresha Fetene and **Santie de Villiers** (2012) Multivariate analysis for quantitative traits in Finger Millet (*Eleusine coracana* subsp. *coracana*) population collected from eastern and southeastern Africa: Detection for patterns of genetic diversity. *International Journal of Agricultural Research* **7**(6):303-314.
  - E. Mutegi, F. Sagnard, M. Labuschagne, L. Herselman, K. Semagn, M. Deu, B.M. Kanyenji, **S. de Villiers**, C.N. Mwongera, P.C.S Traore and D. Kiambi (2012) Local scale patterns of gene flow and genetic diversity in a crop-wild-weedy complex of sorghum (*Sorghum bicolor* (L.) Moench) under traditional agricultural field conditions in Kenya. *Conservation Genetics* doi:[10.1007/s10592-012-0353-y](https://doi.org/10.1007/s10592-012-0353-y).
  - J. A. Okeno, E. Mutegi, **S. de Villiers**, J. D. Wolt and M. K. Misra (2012) Morphological variation in the wild-weedy complex of *Sorghum bicolor* *in situ* in western Kenya: preliminary evidence of crop-to-wild gene flow? *International Journal of Plant Sciences* **173**(5):507-515.

- Muraya, Moses; **de Villiers, Santie**; Parzies, Heiko; Mutegi, Evans; Sagnard, Fabrice; Kanyenji, Ben; Kiambi, Dan; Geiger, Hartwig (2011) Genetic structure and diversity of wild sorghum populations (*Sorghum* spp) from different eco-geographical regions of Kenya. *Theoretical and Applied Genetics* doi: 10.1007/s00122-011-1608-6
- **Santie M de Villiers** and David A Hoisington (2011) The trends and future of biotechnology crops for insect pest control. *African Journal of Biotechnology* **10**(23):4677-4681
- Moses M. Muraya, Hartwig H. Geiger, Fabrice Sagnard, **Santie de Villiers** and Heiko K. Parzies (2011) Adaptive values of wild x cultivated sorghum (*Sorghum bicolor* Moench L.) hybrids in generations F1, F2, and F3. *Genetic Resources and Crop Evolution* **57**(2):243-253.
- Muraya Moses, Mutegi Evans, Geiger Hartwig, **de Villiers Santie**, Sagnard Fabrice, Kanyenji Ben, Kiambi Dan, Parzies Heiko (2011) Wild sorghum from different eco-geographic regions of Kenya display a mixed mating system. *Theoretical and Applied Genetics* **122**:989. 1004
- Muraya Moses, Mutegi Evans, Geiger Hartwig, **de Villiers Santie**, Sagnard Fabrice, Kanyenji Ben, Kiambi Dan, Parzies Heiko (2011) Wild sorghum from different eco-geographic regions of Kenya display a mixed mating system. *Theoretical and Applied Genetics*. doi: 10.1007/s00122-011-1560-5
- Moses M. Muraya, Hartwig H. Geiger, Fabrice Sagnard, **Santie de Villiers** and Heiko K. Parzies (2010). Geographical patterns of phenotypic diversity and structure of Kenyan wild sorghum populations (*Sorghum* spp) as an aid to germplasm collection and conservation strategy. *Plant Genetic Resources* **8**:217-224.  
doi:10.1017/S1479262110000225
- Mutegi E., Sagnard F., Semagn K., Deu M., Muraya M., Kanyenji B., **de Villiers S.**, Kiambi D., Herselman L. and Labuschagne M. (2010) Genetic structure and relationships within and between cultivated and wild sorghum (*Sorghum bicolor* (L.) Moench) in Kenya as revealed by microsatellite markers. *Theoretical and Applied Genetics* doi: 10.1007/s00122-010-1504-5
- Evans Mutegi, Fabrice Sagnard, Moses Muraya , Ben Kanyenji, Bernard Rono, Caroline Mwongera, Charles Marangu, Joseph Kamau, Heiko Parzies, **Santie de Villiers**, Kassa Semagn, Pierre Sibiry Traoré and Maryke Labuschagne (2010). Ecogeographical distribution of wild, weedy and cultivated *Sorghum bicolor* in Kenya: Implications for conservation and crop-to-wild gene flow. *Genetic Resource and Crop Evolution* **57**:243-253
- Susan Muthoni Maina, Quinata Emongor, Kiran K. Sharma, Simon T. Gichuki, Moses Gathaara and **Santie M. de Villiers** (2010) Surface sterilant effect on the regeneration efficiency from cotyledon explants of groundnut (*Arachis hypogea* L.) varieties adapted to eastern and southern Africa. *African Journal of Biotechnology* **9**(20):2866-2871
- **Santie de Villiers**, Quinata Emongor, Rosemary Njeri, Eastonce Gwata, David Hoisington, Irene Njagi, Said Silim and Kiran Sharma (2008) Evaluation of the shoot regeneration response in tissue culture of pigeonpea (*Cajanus cajan* [L.] Millsp.) varieties adapted to eastern and southern Africa. *African Journal of Biotechnology* **7**(5), pp. 587-590
- **De Villiers SM**, Kamo K, Thomson JA, Bornman CH and Berger DK (2000) Biolistic transformation of chinchinchee (*Ornithogalum*) and regeneration of transgenic plants *Physiologia Plantarum* **109**(4):450-455.
- **De Villiers SM** and Bornman CH (1999) Regeneration pathways of *Ornithogalum* cultured *in vitro*. *Journal of the South African Society of Horticultural Science* **9**(2):43-48.

#### Other publications:

- Masiga CW, Mugoya C, Ali R, Mohamed A, Osama S, Ngugi A, Kiambi D, **De Villiers S**, Ngugi K, Niyibigira T, Tesfamichel A, Machuka J, Oduor R, Runo S, Adam R, Matheka J, Bedada L, Seth M, Kuria E, Ndirigwe J, Ndolo P, Muthamia Z, Nasona B, Ntimpirangeza

- M, Tsegaye E, Desterio N, Ogero K, Mburugu G, Mukasa S, Kim D-J, Ferguson M, Mneney E, Nsubuga E, Rishurimuhirwa T, Byamugisha D, Wamatsembe I, Nzuki I, Mkamilo G, Kimata B and Ketema, Seyfu (2014). Enhanced Utilization of Biotechnology Research and Development Innovations in Eastern and Central Africa for Agro-ecological Intensification. In: Challenges and Opportunities for Agricultural Intensification of the Humid Highland Systems of Sub-Saharan Africa. Vanlauwe B, van Asten P and Blomme G (Editors). Springer International Publishing, pp. 97-104; ISBN: 978-3-319-07661-4; DOI 10.1007/978-3-319-07662-1\_8; URL: [http://dx.doi.org/10.1007/978-3-319-07662-1\\_8](http://dx.doi.org/10.1007/978-3-319-07662-1_8)
- **Santie de Villiers** (2012) Bt crops advance. Cover story - Chemistry and Industry Magazine. Issue 5. (<http://www.soci.org/Chemistry-and-Industry/Cnl-Data/2012/5>)
  - **De Villiers SM** and Ferguson ME (2004). Inventory of Agricultural Biotechnology for Southern Africa Compiled by IITA for USAID Regional Centre for Southern Africa pp80.
  - **De Villiers SM** (1999) Microprojectile-mediated transformation of *Ornithogalum thyrsoides* Hybrid A2. PhD thesis, University of Cape Town, South Africa.

**Invited presentations:**

- **Santie de Villiers**, Kassahun Tesfaye, Emmarold Mneney, Mathews Dida, Patrick Okori, Vincent Njunge, Annis Saiyiorri, Santosh Deshpande, Katrien Devos, Davis Gimode, Dagnachew Lule, Isaac Dramadri, Ismail Mohamed and Damaris Odeny (2013) Genetic diversity assessment of east African finger millet and cost-effective development of new SSR markers. Bio-Innovate Regional Scientific Conference, 25-27 February, 2013, Addis Ababa, Ethiopia
- **Santie de Villiers** (2011) Current technologies for insect resistance in Biotech crops. CropWorld Global 2011 International Conference, 31 October . 2 November 2011, London, UK.
- **Santie de Villiers** (2011) Marker Assisted introgression of Staygreen drought tolerance QTLs into sorghum farmer preferred varieties in Ethiopia and Kenya. ASARECA Eastern and Central African Workshop on *Striga* Resistance and Drought Tolerance in Sorghum, 19 . 20 September 2011, Nairobi, Kenya.
- **Santie de Villiers** (2011) Biotechnology tools for crop improvement . what is available and how does it benefit Africa, now and in the future? Plenary lecture, International Conference on Agricultural Biotechnology in Africa: Fostering Innovation, 13-14 May 2011, Addis Ababa, Ethiopia.
- **Santie de Villiers, Kassa Semagn and Morag Ferguson** (2010) Molecular marker approaches for crop improvement supported by the BecA-ILRI Hub. Plenary lecture, Biosciences eastern and central Africa ILRI/BecA Hub launch, 4 November 2010, Nairobi, Kenya.
- **Santie de Villiers and Fabrice Sagnard** (2008) BBI project on Environmental risk assessment of Genetically Engineered Sorghum in Mali and Kenya. Presentation made to an expert panel to assess the environmental risks associated with gene flow to wild relatives in the specific case of Africa Biofortified Sorghum (ABS), 3-6 October 2008, St Louis, USA
- **Santie de Villiers and Dave Hoisington** (2008) The trend and future of biotech crops and insect pest control. Plenary lecture, Consolidating Experiences from IRMA I and II: Achievements, Lessons and Prospects: IRMA Project End-of-Phase II Workshop, 27-30 October 2008, Nairobi, Kenya. African Journal of Biotechnology