

CURRICULUM VITAE

FOR

JOSEPH JENTE MOLAPISI

SUMMARY

I was born on 2 March 1968. I completed my BSc (Honours) in Chemistry at the University of the Witwatersrand in 1995 after which I worked as a research scientist at the South African Nuclear Energy Corporation (NECSA) from 1996. In 1999 I obtained an MSc (Chemistry) at the University of Pretoria. My experience at NECSA includes being appointed a contracts manager. In 2002 I obtained a Masters in Business Administration (MBA) from UNISA (a programme offered in partnership with Open University of UK), majoring in Business Strategy and Financial Strategy. This qualification was preceded by a Certificate in Management and an Advanced Diploma in Management both obtained from UNISA. These programmes covered a wide range of topics which include *Making Sense of Modern Management; Management Approaches to Development and Change; Managing and Learning; Developing Management Competence; Developing Skills: Developing People; Managing Relationships; Building Team Effectiveness; The Imperative of Development and Change; Managing the Change Process; Strategies for Managing Complex Change; Change Management Skills and Strategies; Resourcing the Manager; Managing the Marketing Function; Managing Human Resources; Managing Operations; Managing Information; Managing Finance; Managing the Market; Planning your Resources.*

In October 2002 I joined the South African Bureau of Standards as a manager of the analytical laboratories. The primary responsibility of the position was to ensure effective and efficient service to the clientele, through, among other things, the maintenance (and continuous compliance to) laboratory accreditations. Included in the resources I managed in this position is a staff of more than 30 people comprising heads of sections of the laboratory (5 sections), analysts, administration officers and support staff.

In 2005 I joined the South African Sugar Association (SASA) as a Regional Manager (Southern Region). The region comprised six centres each managed by a Centre

Manager and its (the region) staff compliment was more than 120. The primary responsibility of the position was to create an environment for the provision of high quality service to the SASA clients cost effectively and timely. This included establishment and maintenance of quality systems, continuous maintenance and upgrading of the laboratories' infrastructure and efficient operation of systems.

I was recruited to the Department of Science and Technology in 2006 for the position of a Director: Emerging Research Areas. The responsibility of the position, which I currently hold, is to identify new and emerging scientific research areas and develop plans and programmes for their national development. My achievements in the position include having established a Directorate, and built it into a very effective unit within the Department which today accounts for a significant amount of the Department's achievements on an annual basis. Through my leadership of the Directorate I have developed and implemented strategies that positioned South Africa on a global map with regards to the world-class research in emerging research areas whose development the Department is supporting. These are nanotechnology, photonics, synthetic biology and robotics. Having started from a zero base in each only in 2006, it is commendable that the country is in each of these areas now a player of note globally.

I have obtained a PhD (Management of Technology and Innovation) from the Da Vinci Institute for Technology Management. I have also obtained an Advanced Leadership Development programme qualification from the University of Stellenbosch.

Details of my professional experience are provided below.

PERSONAL DETAILS

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ACADEMIC QUALIFICATIONS

1. PhD (Management of Technology and Innovation) (Da Vinci Institute for Technology Management)
2. MBA (Open University of UK in Partnership with UNISA)
3. Advanced Leadership Development Programme (University of Stellenbosch)
4. MSc (Chemistry) (University of Pretoria)
5. BSc (Honours) in Applied Chemistry (University of the Witwatersrand)
6. BSc (Vista University) Applied Chemistry, Chemistry, Mathematics & Statistics
7. Advanced Diploma in Management (UNISA)
8. Professional Certificate in Management (UNISA)

PROFESSIONAL EXPERIENCE

Employer:	Department of Science and Technology
Directorate:	Emerging Research Areas
Position Held:	Director
Period:	August 2006 to December 2016

Responsibilities

The core business of the directorate is to identify and formulate strategies and their implementation plans (and lead the operationalisation of these strategies) for the development of new and emerging research areas nationally. The emerging research areas the unit is currently developing include (a) nanotechnology, (b) synthetic biology, (c) photonics and (d) robotics. Programmes for the development and management of these research areas for their delivery of the set strategic goals have been put in place. Included in the responsibilities of the directorate is to manage institutions set up and those being used (such as universities and science councils) for the roll-out of emerging research areas development programmes. As the head of the directorate, my responsibilities include:

- (i) Providing strategic direction to the directorate, in line with its mandate. This includes the development of the directorate's business plans, preparation of budget options and the provision of leadership in the deployment of the directorate's resources.
- (ii) Develop strategies and their implementation plans for research areas managed by the directorate. The achievements of the directorate, under my leadership, include the following:
- Development and operationalization of the National Nanotechnology Strategy. This has resulted in the identification and implementation of initiatives for the development of nanotechnology as an emerging research area. These efforts have positioned South Africa as a player of note globally in nanotechnology research. The placement of state-of-the-art infrastructure at various research institutions nationally and the identification and support of research programmes have yielded the level of outputs that have by far exceeded all expectations.
 - Led the establishment of world-class Nanotechnology Innovation Centres, based at Mintek and the Council for Scientific and Industrial Research (CSIR). Their purpose is to enable nanotechnology innovation and commercialisation in the country. These Centres perform exceptionally well having, within a short space of time since their establishment in 2007, already delivered quality innovation products with the potential to effect social and economic development.
 - Developed the Nanotechnology Public Awareness Programme, which aims to inform the public of issues around Nanotechnology and pave way for the acceptance of the technology. The Directorate's efforts in this regard have resulted in South Africa being among the lead countries for the development of the OECD's nanotechnology public engagement framework, which has been finalised and is currently published.
 - Led the establishment of the Nanotechnology Health, Safety and Environmental Risk Research Platform, which is meant to build the capability, through R&D, for the identification and mitigation of risks associated with nanotechnology. The Platform is critical in ensuring the integrity of nanotechnology products developed and will enhance their commercialisation in the country.

- Developed the Nanotechnology Research plan, which guides nanotechnology research and development nationally and provides indication of the focus and solutions that nanotechnology should provide for the country's challenges.
 - Championed the development of Photonics National Strategy and its implementation plan, which were approved in 2009. The strategy guides the development of the photonics research nationally. For the operationalisation of the strategy a variety of programmes have been put in place to in place and are being managed by the Directorate. Such have resulted in very commendable achievements which include the development and transfer of technology to a private company and the setting up of one spin-out company.
 - Having developed the BioDesign strategy, which is a strategy that guides the development and integration of biology related disciplines such as Synthetic Biology, Systems Biology, Structural Biology and Functional Genomics. These are meant to ensure the sustainability of the country's bio-economy by providing the necessary skills and knowledge base. Programmes for the development of this area of science are being implemented and managed by the Directorate. Research work in this area has resulted, among others, in the establishment of two spin-out companies and a wide range of innovation products.
- (iii) Management of Human Resources. This includes identification and implementation of programmes in pursuit of staff development; formal and informal performance appraisals for staff members to enhance their performance; and staff job enrichment.
- (iv) Management of the budget for the Directorate. The Directorate's annual budget is, on average, R100 million. My responsibilities include the effective deployment of this funding for the delivery of set targets for the year. The exceptionally good results emanating from the funded programmes demonstrate the effectiveness of the deployment of funding. In addition I have been able to secure funding from other sources (e.g. European Commission's Framework Programmes for the undertaking of the development of the Code of Conduct for Nanotechnology R&D).
- (v) Participate in the development of strategies, business plans and activities of the Chief Directorate.

As part of my current responsibilities, I served in the following bodies on behalf of the Department:

- A member of the OECD's Working Party on Nanotechnology (WPN);
- The Chairperson of the CSIR Nanotechnology Industrial Development Facility Advisory Panel;
- A member of the CSIR Nanotechnology Innovation Centre Advisory Panel;
- A member of the Mintek Nanotechnology Innovation Centre Steering Committee;
- A member of the Nanotechnology HSE Risk Research Platform Advisory Board;
- A member of the National Nanotechnology Postgraduate Teaching and Training Platform Advisory Board;
- A member of the Photonics Initiative of South Africa Steering Committee
- A member of the Robotics Steering Committee

PREVIOUS

Previous Employer (1): South African Sugar Association (SASA)

Division: Cane Testing Services

Position Held: Regional Manager (Southern Region)

Period: August 2005 to July 2006

Responsibilities

As part of senior management of the Cane Testing Services (CTS) division of SASA, the responsibilities of this position included providing strategic direction to the business, creating an environment of competitive advantage and continuously ensuring its sustainability. As part of CTS senior management, I was involved in the process for the development of the division's business strategy which was meant to ensure its optimal performance.

Also on an ongoing basis, the position had the responsibility of ensuring the prevalence of an environment conducive to optimal performance, financially and in terms of client satisfaction, by all its centres in the southern region of CTS. The

southern region had a total of six cane testing laboratories (centres) each of which is managed separately and reports to the Regional Manager.

Routine responsibilities included the management of these laboratories, which have the responsibility of testing cane and its products necessary for the equitable distribution of the proceeds from the sale of sugar. These responsibilities include line function management of each centre and management of each centre's budget and also the regional budget. This position, reporting to the division's GM, had 4 managers reporting to it, with the staff compliment of more than 120.

Previous Employer (2): South African Bureau of Standards (SABS)

Department: General Analytical Chemistry

Position Held: Manager

Period: 2 October 2002 to July 2005

Responsibilities:

The primary responsibility of the position was the management of a General Analytical Department of Testing and Conformity Services (TCS) division. The Department did a wide range of chemical analyses. It had five main different sections, these being (i) *the Pharmaceutical section*, (ii) *the Food section*, (iii) *the Petroleum section*, (iv) *the Water section* and (v) *the Industrial section*, with the staff compliment of 33, made up of analysts, administration officers and supporting staff. I developed and implemented the business strategies for the integration of all these various section, after their merging into one Department. The strategy resulted in this Department ranked among the best performing within the SABS.

Reporting to the divisional director, the responsibilities of the position included staff management and development, budgeting and budget control, performance of the laboratories both financially and in terms of clients' requirements, client liaison and the overall improvement of the laboratory systems to effect efficient and effective processes. Included in the general management of the department was the responsibility of ensuring adherence to all safety regulations. Maintenance of the quality system which includes SANAS (ISO 17025) and MCC (GLP) accreditation and the further expansion of the scope of accreditation for the department were also central

to the management responsibilities. Strategic focus of the department included business growth in terms of client base and revenue.

Previous Employer (3): South African Nuclear Energy Corporation (NECSA)

Period: 2 January 1996 to 2002

Department (First): Conversion Technology (1996 - 2000)

Position Held: Research Scientist

Department (second): Nuclear Liabilities Management (NLM)

Position Held: Contracts Manager

Part-Time Employer (1): Technikon Northern Gauteng (now TUT)

Period: February 1998 to December 1998

Position: Part-Time lecturer

Responsibilities: *Lecturing Physics II. This is a bridging course for students having obtained a diploma in Analytical Chemistry and intending to do B-Tech*

Part-Time Employer (2): University of South Africa (UNISA)

Period: January 2004 to 2008

Position Held: MBA Tutor

IMPORTANT ATTRIBUTES

The following are some of the important attributes I possess:

- (i) *Very strong strategic leadership qualities.* Throughout my professional career I have demonstrated high level of strategic leadership. Highlighting this are, among others, my establishment of a Directorate (the Emerging Research Areas Directorate of the Department of Science and Technology) and providing its strategic direction. I ensured its resourcing by motivating for funding from National Treasury and this resulted in the inclusion of the Directorate funding in the Science Vote. I championed the development of programmes for the Directorate and their implementation. I have played a significant role in the establishment of the Advisory Boards (e.g. Nano-HSE Risk Research Platform Advisory Board) overseeing and advising on some of

the Directorate's programmes. I serve on these boards with my Directorate providing secretariat functions.

- (ii) *Stakeholder Relationship and Management.* In all aspects of my work within the Department I have championed the establishment of very strong stakeholder involvement, which proved critical to the success of the Department's endeavours. I have worked closely with universities, Science Councils and industry in promoting research at these institutions and ensuring that this research delivers on the Department's set objectives. The success of the nanotechnology programmes, for example, is attributable to the strong relationships I have established with research institutions.
- (iii) *Exceptionally good negotiation skills.* As the head of the Directorate, I negotiate contracts with stakeholders (researchers, research institutions, and other service providers) for the work performed in advancing the Directorate's objectives.
- (iv) *Exceptionally good communication skills, both verbal and written.* My responsibilities involve a lot of communication to both internal (e.g. DST EXCO) and external stakeholders and the presentation of written reports to enable decisions on the future of the Directorate's various programme. My communication skills proved invaluable in, for example, soliciting buy-in from stakeholders for a variety of programmes; and soliciting funding to support these initiatives.
- (v) *Excellent interpersonal skills.* The annual reports on my appraisals by my peers and staff members indicate consistently that my excellent interpersonal skills are responsible for the rating of my team as high performers.
- (vi) *Very good business management skills.* I served as a business unit manager within the SABS. It is during this period that I demonstrated my good business management skills by running the unit effectively and efficiently, on a consistent basis increasing its profits and reducing its operational costs. Enhancing this are the business management qualifications I have acquired and as provided above.
- (vii) *Very good project management skills.* The high rate of delivery of my Directorate's programmes is evidence of the good project management we employ. This is a direct result of the project management training I received.
- (viii) *Analytical prowess and strategic thinking.* My Directorate's programmes are a direct result of my analysis of the environment and identifying appropriate

intervention to ensure that as a Directorate (and the country) we remain relevant in what we do.

- (ix) Ability to conduct research, analyse and interpreted research outcomes. My academic qualifications, coupled with my years of experience as a researcher and my direct involvement in the development and management of research undertaken at research institutions (including universities and science councils) have equipped me with the skills to conduct research, analyse and interpret research results.

REFEREES

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