

# CURRICULUM VITAE

**Mr Marcus Dekenah**

**Field of expertise: Electrical engineering with Research**

**Contact details:**

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**ID No. : 6101085063006**

**Nationality: RSA**

**Languages: English, Afrikaans**

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**SYNOPSIS:**

Experience

12 years running own contract research consultancy in electrical engineering.  
3.5 years research work with CSIR - Enertek (Energy Technology Division).  
6 years as a power technician with an electrical utility, covering most aspects (HV, MV, LV).

Education

12 years Tertiary education with Technical, Engineering and Business exposure.

Abilities

Peer-group leader. Lateral but logical thinker. Strongly data literate. Analytical . Computer literate.  
Run dispersed research operations. Work with volunteers. Good technical communicator, trainer,  
Media liaison. Electrical load research expert.

Accreditation

Registered as AM SAIEE.

**SECONDARY EDUCATION**

**Matric**

Secondary School: Rondebosch boys high school: 1978  
Matriculated with Maths & Science, E average.

Extramural activities:

Mostly outdoor informal.

**TERTIARY EDUCATION**

Date: Jan 1979 - Apr 1983 **Qualification:** NHD (Elec. eng, Heavy current), Cape Technikon

Date: Jan 1985 - Dec 1987 **Qualification:** Masters Diploma in technology (T5), Cape Technikon

Date: Mar 1988- Dec 1991 **Qualification:** BSc Elec Eng. (Elec. Eng.) UCT.

- Degree awarded with 1<sup>st</sup> class honours.
- Placed on Dean's merit-list for year 1988, 1989, and 1990.
- Class representative for years 2, 3, 4.

Date: Feb 1994- Dec 1996 **Qualification:** Masters in business leadership (years 1,2), UNISA

**PROFESSIONAL EXPERIENCE**

<b>Date</b>	Jul 1995 - present
<b>Company</b>	Marcus Dekenah Consulting CC
<b>Duties</b>	<p>Consulting engineer in own business, focused on contract research. Main areas of business presently research projects in electrical load research, energy management and high voltage engineering (order of involvement).</p> <p>Acted as project leader for multi-disciplinary projects of up to 30 involved team members spread out and working according to common standards about the country. Integrating efforts of academics, Eskom employees and municipal contributors.</p> <p>Design, population and subsequent analysis of several large research databases (up to 900 million records) for research projects, with full project control and accountability.</p> <p>Capture, validation, storage, analysis and reporting of information.</p> <p>Full business-cycle responsibility (marketing, contracts, contracting, infrastructure, investment, project management, delivery, billing, reporting, documentation, software design and distribution, training.)</p> <p>Specified, contracted and maintained company web-site (www.mdekenah.co.za) and email domain.</p> <ul style="list-style-type: none"> <li>• Technical project leader of the NRS<sup>1</sup> LR project 1994-2007.</li> <li>• Contributor to Lesotho highlands water scheme, water resource &amp; load modeling project. SA-Lesotho power interchange. (Gibb Africa, circa 1995-1996).</li> <li>• Technical project leader of the ESKOM TSI<sup>2</sup> LR project since 1998.</li> <li>• Technical project leader for the Namibian LR project (Polytech of Namibia, 2000-2002).</li> <li>• Project leader for LPU<sup>3</sup> sample design project (Eskom EPP<sup>4</sup>, 2000).</li> <li>• Project leader for Agrelek<sup>5</sup> sample design project (Eskom Agrelek, 2001).</li> <li>• Project leader for EBSST<sup>6</sup> (electricity basic services support tariff) technical effects measurement project (Eskom EBSST, 2002-2003).</li> <li>• Project leader for Load profile disaggregation project for ISEP<sup>7</sup> (Eskom ISEP, 2003).</li> <li>• Project leader for Homeflex TOU tariff<sup>8</sup> technical effects study (Eskom EPP, 2002-2006).</li> </ul>
<b>Achievements</b>	Delivery of results into NRS 034 National standards for electrification in townships.

<sup>1</sup> Project for National Rationalisation of Standards. The LR project was monitoring 800 domestic consumers continuously last year. Profile & demand models linked back to causal factors such as income were derived.

2 Technology services international, a division of Eskom

3 Large Power Users. Time-of-day profiles were extracted during this project and bases for clustering investigated.

4 Electricity pricing policy, a department within Eskom Distribution division

5 Agrelek is a department within Eskom which markets use of electricity to Agricultural users.

6 The EBSST tariff is about to be applied to provide relief to poor consumers in South Africa. It is envisaged that 50 kWh will be given free per month to households which “qualify”. Price elasticity of demand/consumption was measured experimentally at pilot sites during this project.

7 Integrated strategic electricity planning, a department in Eskom.

8 Homeflex is a domestic time-of-use tariff, currently being tested at three pilot/control sites in SA.

	Authored co-authored more than 27 publications, in local and international arena.
<b>Reason for leaving</b>	N/A

<b>Date</b>	Jan 1992 - Jul 1995
<b>Company</b>	Enertek division, CSIR
<b>Duties</b>	Project Engineer in control of contract research projects in fields of electrical reticulation, insulation co-ordination, electrical load research, energy management.
<b>Achievements</b>	SAIEE annual "Best paper" award, 1994. CSIR Merit award (Outstanding service) 1993. Appointed project leader (Feb 1994) Appointed section manager: High voltage laboratory (Mar 1995) Appointed "competent person" for HV laboratory operations.
<b>Reason for leaving</b>	Area of "passion" not supported at CSIR.

Mar 1988- Dec 1991: Studies towards BSc Eng at UCT.

<b>Date</b>	Jun 1985 - Mar 1988
<b>Company</b>	Electricity department, Cape town city council
<b>Duties</b>	Professional assistant with Cape Operations, maintenance and repairs on HV and MV system. This provided exposure to most systems and components involved in transmission and distribution up to 132 kV inclusive. Supervisory role in charge of artisans. Completed part-time studies towards M.Dip Tech.
<b>Achievements</b>	Appointed "Technologist"
<b>Reason for leaving</b>	Limited career opportunity for a "technologist" in the municipal environment.

Jun 1983- Jun 1985: Compulsory military service, SADF Signals Corps, with Studies towards M Dip Tech (T5) from Jan 1985.

<b>Date</b>	Aug 1980 - June 1983
<b>Company</b>	Electricity department, Cape town city council
<b>Duties</b>	Began career via rotation technical training in generation/ transmission/ distribution. Junior Professional Assistant with Cape Town City Council. Circulation training on broad range of electrical utility functions. Substations, Underground mains, Districts, Power station, Transformer (workshop & maintenance).
<b>Achievements</b>	

Jan 1979 - Apr 1983: Study towards National higher diploma (T4). Appointed by Electricity department, Cape Town City Council in Aug 1980 on bursary scheme.

## **COURSES**

### **Attended:**

1984 Candidate officers course (SADF, Signals) (3 months) 70%  
1984 Superfledermaus radar yearly maintenance course, SADF (7 weeks) 66%  
1984 Basic microprocessors: 78%  
1985 Digital systems T1: 67%  
1987 Digital systems T3 : 70%  
1992 Lightning protection for electrical distribution systems (2 day).  
1992 Toastmasters: Success leadership programme - speechcraft  
1993 Time management (1 day) (Groman Consulting)  
1994 Business presentation skills (BPS)  
1994 Situational leadership (2 day) (Groman consulting)  
1995 Seminar in positive negotiation (4day) (SEP Serfontein Genote)

### **Presented:**

2000 Basic statistics for Eskom network planners (1 day, 6 repeats)  
2004 Introduction to the NRS LR database for researchers (once off, 2 days)  
2006 NRS 034 seminar: Domestic Electric Loads, Demand, Profiles & Models (1 day, 3 repeats)

## **COMPUTER SKILLS**

Fully conversant with PC hardware, software and networking in the Windows/x86 PC environment.

### **Software**

- MS SQL Server 2000 (Administrator, design & implement, analytical expert)
- ARC GIS 9.0
- S+ statistics package 4.5 (Expert)
- Delphi 5.0 (Programmer), Visual Basic 3.0 (Programmer)
- MathCad 2000
- MS Office: Word (Expert), Access (User, programmer, analytical expert), Powerpoint (expert), Excel (User, programmer, analytical expert)
- Quickbooks accounting (User)
- Utilities: Paintshop Pro 8.0 Visio 5.0, Mindmanager Pro 7.0, Skype, Hamachi VPN, Oracle VNC, Ulead video studio 8.0.

### **Hardware**

Built several purpose-specific database servers (typically with MS Small Business Server) including Terabyte-size RAID disk arrays, tape streamer backup systems, A0 plotters and associated software. Fully competent to administer own IT infrastructure including cabling, routers, switches, firewalls, modems, printers, projectors etc.

## **PERSONAL INSIGHTS**

I have the following personal-strengths:

An inquisitive collector of stuff which is considered interesting or useful (especially data sets). Well developed sense of responsibility. Achiever: Experience a constant need for achievement. Learner: Love to learn, no matter what. The process is stimulating. Thinker: Like to think, "stretching" the brain with mental activity.

I have the following core skills:

Technical writing. Technical business presentation. Fundamental understanding of statistics, numerical analysis and modelling. Lateral thinker. I climb into problems and "feel" them. Use an "investment" approach towards management of resources.

**HOBBIES/INTERESTS (ordered by time-allocation)**

- Crime-fighting: Formed successful neighbourhood watch in 2006-7. Involved in most aspects of liaison, information-management, leadership, tactical response group, intelligence group, News & Radio communications and various community training. Member of resident's association and Co-head of the Watch. This has been a very great experience in terms of learning how to get things done with a group of about 800 volunteers.
- Reading: (Management/leadership, economics, science, computing).
- Shooting (various handguns).
- Cycling.
- Constantly buy and fiddle with kit (Metal-turning lathe, IP network cameras, FTP server in a box, DVR software...).

## APPENDIX: Detailed academic record

### SECONDARY EDUCATION

#### Matric

Secondary School: Rondebosch boys high school: 1978

Subjects	Results	Grade (HG/SG)
English (1 <sup>st</sup> Lang)	D	HG
Afrikaans (2 <sup>nd</sup> Lang)	E	HG
Mathematics	F	SG
Physical science	E	HG
Biology	E	HG
Geography	E	HG

### TERTIARY EDUCATION

Date: 1983/4/18

**Qualification:** National diploma for technicians T4 (Elec. eng, Heavy current)

Cape Technikon

Year 1 (T1, T2)	Subjects	Results	
	General studies	57	
	Principles of electricity	67	
	Physics B	53	
	Engineering drawing	54	
	Applied mechanics	70	
	Mathematics A	56	
	Mathematics B	50	
	General studies	48	Condoned
	Principles of electricity	66	
	Electronics	66	
	Physics B	58	
	Calculus A	55	
	Calculus B	59	
<b>Year 2 (T3, T4)</b>	General studies	71	
	Electrical machines	61	
	Mechanical technology	66	
	Automatic control	50	
	Mathematics <sup>9</sup>	70	
	Electrical engineering	67	
	Strength of materials	64	
	Management	45	Condoned
	Electrical machines	80	
	Automatic control	63	
	Electrical Machines	57	
	Ordinary differential equations	50	
	Strength of Materials	62	

<sup>9</sup> Calculus T3 and ordinary differential equations T4

Date: 1987/12/01

**Qualification:** Masters Diploma in technology (T5)

Cape Technikon: Part time

Year 1	Subjects	Results	
	Maintenance management		Pass: Mark unknown
	High voltage engineering	57	
	Engineering management	67	
	Utilisation of electrical plant	74	
	Process instrumentation	77	
	Engineering mathematics	66	
	Protection of power systems	71	
	Power electronics	78	

Date: 1991/12/13

**Qualification:** BSc Elec Eng. (Elec. Eng.)

University of Cape Town

Year 1	Subjects	Results	
	Applied Mathematics 104	80	
	Chemistry for engineers	61	
	Introduction to engineering	82	
	Engineering drawing	72	
	Mathematics 105	71	
	Physics 104	77	
<b>Year 2</b>	Computer science 102	84	
	Computer science 103	75	
	Economics 104	70	
	Prac. training	Done	
	Electrical circuits	70	
	Electronic circuits	69	
	Electromechanical energy conversion	97	
	Electronics in measurement	80	
	Experimental design lab. I	84	
	Experimental design lab. II	86	
	Electrical materials I	75	
	Physics 222	78	
	Calculus of several variables and V.A.	66	
	Linear algebra	69	
	Ordinary DE's	61	
	Partial DE's	78	
<b>Year 3</b>	Prac training	Done	
	Circuits & signals	66	
	Digital electronics	53	
	Advanced energy conversion	79	
	Experimental design lab III	69	
	Electrical magnetic fields	67	
	Electronic circuits	86	
	Control engineering I	58	
	Energy utilization	90	
	Introduction to power	69	



	systems		
	Experimental design lab IV	82	
	Proff. Communications for elec eng.	65	
	Engineering Stats	60	
	Numerical methods	67	
	Complex analysis	73	
<b>Year 4</b>	Prac training	Done	
	Control eng II	75	
	Power systems	80	
	Thesis project	88	
	Digital systems	80	
	Power electronics and drives	87	
	Electrification of under-developed areas	81	
	Computer-aided systems analysis, ops & control	74	

- Degree awarded with 1<sup>st</sup> class honours.
- Placed on Dean's merit-list for year 1988, 1989, and 1990.
- Class representative for years 2, 3,4.

Date: 1994-1996

**Qualification:** Masters in business leadership (incomplete)

UNISA

<b>Year 1</b>	<b>Subjects</b>	<b>Results</b>	
	Fundamentals of accounting	55	
	Business stats	86	
	Economics	65	
	Fundamentals of management	51	
	Legal environment	54	
	Organisational behaviour	51	
<b>Year 2</b>	Financial accounting	58	
	Management accounting	65	
	Marketing management	64	
	Operations management	62	
	Personnel management	60	

Classes were attended through year 3, with entry to exams granted. Exams were however not written.