

CURRICULUM VITAE

Dr Mphaphathi Masindi Lottus

CONTACT INFORMATION

Agricultural Research Council (ARC),
Animal Production (AP),
Germplasm Conservation & Reproductive
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PERSONAL INFORMATION

Date of Birth: 15 April 1982
Gender : Male
Citizenship : RSA

EDUCATIONAL BACKGROUND/QUALIFICATION

- **2022:** PhD degree in Animal Science, titled “*Factors Affecting Cryopreservation of Cattle Oocytes*”. University of the Free State, Department of Animal, Wildlife and Grassland Sciences, Faculty of Natural and Agricultural Sciences. Free State province, Bloemfontein.
- **2017:** MSc Degree in Animal Science, titled “*Quantification of bull sperm traits as measured by CASA and the relationship to pregnancy rate following controlled breeding*”. University of the Free State, Department of Animal, Wildlife and Grassland Sciences, Faculty of Natural and Agricultural Sciences. Free State province, Bloemfontein.
scholar.ufs.ac.za:8080/xmlui/bitstream/handle/11660/7588/MphaphathiML.pdf
- **2012:** M-Tech Degree in Agriculture Animal Production Science, titled “*Cryopreservation of semen from Venda breed chicken*”, Tshwane University of Technology, Gauteng province, Pretoria.
- **2006:** B-Tech in Agriculture Animal Production, Tshwane University of Technology, Gauteng province, Gauteng.
- **2003:** National Diploma in Agriculture Animal Production, Tshwane University of Technology, Gauteng province, Pretoria.
- **2000:** Matriculated at Tshifhena Secondary School, Limpopo province.

SKILLS

- Pay attention to detail, punctuality, ability to work independently and ability to work under pressure.
- Good interpersonal communication, excellent verbal and written skills, good planning and organizing skills and good presentation skills.

ARCHIVEMENTS

- **2019:** A panelist to represent the Borlaug Fellows attending the World Food Prize at the Association for International Agriculture and Rural Development /Association of Public and Land-grant Universities (AIARD/APLU) side event, Des Moines, Iowa, USA.
- **2019:** 2019 Norman E. Borlaug International Agricultural Science and Technology Fellowship Program (Borlaug Fellowship), 01 September until 24 November, Texas A&M University, Texas, USA.
- **2012:** Adjudicator in Agri Business Woman of the Year Awards 2012. Gauteng Department of Agriculture and Rural Development (GDARD).

WORK EXPERIENCE

Current Employer (05 May 2010 – present)

Position : Researcher.

Employer : Agricultural Research Council (ARC), Animal Production (AP), Germplasm, Conservation & Reproductive Biotechnology (GCRB) section, Irene.

Responsibilities

- Provide and support on *in-situ* and *ex-situ* conservation programmes/management.
- Create and manage archives and identify research needs within the programme.
- Create public awareness of indigenous livestock and their importance to the agricultural industry.
- Managing of the section projects, assets and budget.
- Coordinates rural development programmes.
- Representing ARC in some of the agricultural extension forums.
- Keep accurate research records, data analyses and interpretation.
- Compilation of projects reports.
- Maintenance of national assets.
- Synchronization and artificial insemination (AI) of cows, pigs, goats and sheep.

- Pregnancy diagnosis in cows and pigs.
- Ovum pick-up (OPU) in cows.
- Embryo flushing/recovery and transfer in cows.
- Blood collection.
- Research projects on *in vivo* and *in vitro* embryo production.
- Cryopreservation/freezing of gametes (semen, oocytes and embryos).
- Publish in international and national popular and peer-reviewed scientific journals.
- Manuscript reviewer for both international and national scientific journals.
- Supervision/mentoring of university students (under-graduates and post-graduates) on their respective projects.
- Always interact with farmers (local and international).
- Technology transfer (animal biotechnologies) through media (TV and Newspaper/Magazine).
- Offering cattle/pig artificial insemination and reproduction courses to farmers, students (universities and colleges), school teachers and Department of Agriculture officials.
- Semen collection in bulls, bucks, boars, cocks and rams and evaluation (fertility test) by computer assisted sperm analyzer (CASA) system, etc.

Previous Employer (December 2005 – June 2007)

Position : Farm Supervisor

Employer : Lufafa Hatchery

Responsibilities:

- Supervision for the staff.
- Vaccination of chickens.
- Record keeping.
- Weighing of flock and recordings.
- Vaccination of flocks.
- General broiler breeder flock management.

Previous Employer (December 2002 – February 2004)

Position : Internship Student.

Employer : Rand Water - Swartkopies Dairy Farm.

Responsibilities:

- Artificial insemination in cows
- Keep accurate records.
- Supervision of general labour/staff.
- Milking parlor supervisor.

- General dairy herd management.

STUDENTS SUPERVISOR / CO-SUPERVISOR AT UNIVERSITIES

- **2019 To date:** Mr Magopa T.L. **Title:** Application of sex-sorted sperm/semen for gender pre-selection in dairy and beef cattle following synchronization and artificial insemination for cattle farmers in Gauteng province. University of South Africa (UNISA).
- **2019 To date:** Ms Sebopela M.D. **Title:** Evaluation of temperatures and estradiol levels on the development of cattle oocytes following *in vitro* maturation and fertilization. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Sithole S.M. **Title:** Evaluation of oocytes collection techniques and *in vitro* maturation media following *in vitro* fertilization of cattle oocytes. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Rabothata T.B. **Title:** Comparison of different maturation and fertilization mediums on embryo development of Pigs oocytes *in vitro*. Central University of Technology (CUT).
- **2019 To date:** Ms Nchadi T.W. **Title:** Cryo-effectiveness on boar semen from Kolbroek boars' frozen with three different permitting cryoprotectants. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Maduwa T.T. **Title:** Evaluation of pig oocytes survivability following cryopreservation. Tshwane University of Technology (TUT).
- **2019 To date:** Mr Tshabalala M.M. **Title:** The cryoprotective effect and fertilizing ability of indigenous Windsnyer boar semen diluted with coconut water. Tshwane University of Technology (TUT).
- **2019 To date:** Mrs Rathanya T.S. **Title:** Assessment of frozen-thawed semen of African ungulates using accelerated swim-up technique and differential centrifugation. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Thema M.A. **Title:** Improvement of preservation protocols for Windsnyer boars semen. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Ledwaba M.R. **Title:** Comparison of the efficacy of Dithiothreitol and Glutathione on fertilizing ability of cryopreserved Large White boar semen. Tshwane University of Technology (TUT).
- **2019 To date:** Ms Sehlabela L.D. **Title:** Influence of glutathione in Kolbroek boar spermatozoa during liquid storage and after cryopreservation. Tshwane University of Technology (TUT).

- **2019 - 2021:** Ms Honneysett K.M. **Title:** Influence of oocyte retrieval methods and maturation media on *in vitro* development of porcine embryos. University of Pretoria (UP), Cum Laude.
- **2016 - 2021:** Ms Thavhana M. P. **Title:** Exploring the Use of Silver and Diamonds Nanoparticles on Sperm Cells In vitro and Chicken Embryo In ovo. Tshwane University of Technology (TUT).
- **2015 To date:** Ms Mudau S. **Title:** Evaluation of sheep ovarian activity and subsequent to *in vitro* maturation following transportation at different temperature. Central University of Technology (CUT).
- **2014 - 2018:** Mr Tshabalala M. **Title:** The effect of low density lipoprotein extracted egg -yolk from different chicken breeds on the cryopreservation of Nguni bull semen. Tshwane University of Technology (TUT). Completed, Cum Laude.
- **2014 - 2017:** Mr Nekhavhambe L.R. **Title:** The relationship between live performance and semen traits of Venda cockerels. University of South Africa (UNISA), completed.

GOOGLE SCHOLAR CURENTLY		
<u>Citation indices</u>	All	Since 2017
<u>Citations</u>	145	109
<u>h-index</u>	6	6
<u>i10-index</u>	6	4

UNDER-GRADUTES STUDENTS SUPERVISION /MENTORING AT UNIVERSITIES
• 2022. Ms Amanda Nqobile Nomtsikana Mbonani. Experimental learning. Nelson Mandela University. • 2020: Mr Mahani Mmbulaheni. NRF- B-Tech degree. Tshwane University of Technology. • 2020: Mr Ndivhowo Leon. Experimental learning. Tshwane University of Technology. • 2019: Ms Nomonde Hadebe. Experimental learning. Tshwane University of Technology • 2019: Ms Sindisiwe Sithole. B-Tech degree. Tshwane University of Technology. • 2019: Ms Sehopela M Dimpho. B-Tech degree. Tshwane University of Technology. • 2018: Ms Sindisiwe Sithole. Experimental learning. Tshwane University of Technology. • 2018: Ms Sehopela M Dimpho. Experimental learning. Tshwane University of Technology. • 2018: Ms Khakhathi Ralinala. DST-NRF Internship. • 2017: Ms Thandavhathu Matodzi. DST-NRF Internship. • 2016: Ms Raphalalani Zwivhuya. DST-NRF Internship. • 2016: Mr Bapela Ramathate. Experimental learning- Fort Cox College of Agriculture and Forestry. • 2015: Ms Yalezo Zodidi. Experimental learning- Fort Cox College of Agriculture and Forestry.

- **2014:** Mr Katikati Aphiwe. Experimental learning- Fort Cox College of Agriculture and Forestry.
- **2013:** Ms Jordan Odwa. Experimental learning- Fort Cox College of Agriculture and Forestry.
- **2013:** Ms Nohaya Nomuthadazo. Experimental learning- Fort Cox College of Agriculture and Forestry.
- **2013:** Mr Ngcuzana Sikhumbuzo. Experimental learning- Fort Cox College of Agriculture and Forestry.
- **2012:** Miss Seshoka Mokgadi. B-Tech degree. Tshwane University of Technology
- **2010:** Mr Tshabalala Mduduzi. B-Tech degree. Tshwane University of Technology.
- **2008:** Ms Makhafola Maila. B-Tech degree. Tshwane University of Technology.

RESEARCH GRANT FUNDRAISING EXPERIENCE

- **2018-2022:** R300 000.00. Application of sex-sorted sperm/semen for gender pre-selection in dairy and beef cattle following synchronization and artificial insemination for cattle farmers in Gauteng province. Gauteng Department of Agriculture and Rural Development (GDARD).
- **2019-2022:** R361 000.00. Pig embryo development and cryopreservation *in vitro*. Department of Agriculture, Land Reform and Rural Development (DALRRD).
- **2019-2022:** R220.000.00. Factors affecting cryopreservation of cattle oocytes. National Research Foundation (NRF)- THUTHUKA.

CONFERENCES/WORKSHOP ATTENDED

- **2021:** South African Society of Animal Science, 10 to 12 August, virtually.
- **2020:** International Embryo Technology Society (IETS), New York, 16 to 19 January, USA.
- **2019:** World Food Prize, Des Moines, Iowa, USA, 15 to 17 October.
- **2019:** South African Society of Animal Science, Bloemfontein, Free State province, RSA, 10 to 12 June.
- **2018:** Aldam Stockman's School, Bloemfontein, Free State Province, 17 to 19 October
- **2017:** South African Society of Animal Science (SASAS) congress, Port Elizabeth, Eastern Cape Province, 18- 21 September.
- **2016:** The African Union-Interafrican Bureau for Animal Resources (AU-IBAR) Genetics project: Training on handling of animal genetic materials, 18th to 22nd January, Entebbe, Uganda.
- **2016:** International Embryo Transfer Society (IETS), Louisville, Kentucky, 23 to 26 January, USA.
- **2016:** South African Society of Animal Science (SASAS) congress, Stellenbosch, Western Cape Province, 03 to 06 July.

- **2015:** South African Society of Animal Science (SASAS) congress, Empangeni, KwaZulu Natal Province, 21 to 23, September.
- **2013:** South African Society of Animal Science (SASAS) congress, Bloemfontein, Free State Province, 23 to 26 June.
- **2012:** International Embryo Transfer Society (IETS), Phoenix, Arizona, 7 to 10 January, USA.
- **2012:** South African Society of Animal Sciences (SASAS), East London, Eastern Cape Province, RSA.
- **2012:** The 3rd Africa Agriculture Sustainable Investment and Development Conference, Emperors Palace, Johannesburg, 29 to 31 August, RSA.
- **2011:** Follicular Aspiration & *In Vitro* Embryo Production Course, Rustenburg, North West Province, 26 to 29 July, RSA.
- **2011:** South African Society of Animal Sciences (SASAS), Stellenbosch, Western Cape Province, 11 to 14 July, RSA.
- **2010:** International Embryo Transfer Society (IETS), Cordoba, 9 to 12 January, Argentina.
- **2010:** Animal Agriculture Conference, Botswana College of Agriculture (BCA), Gaborone, 2 to 4 March 2010, Botswana.
- **2009:** International Embryo Transfer Society (IETS), San Diego, California, 3 to 7 January, USA.
- **2008:** International Congress on Animal Reproduction (ICAR), Budapest, 13 to 17 July, Hungary.
- **2008:** World Congress of Animal Production (WCAP), Cape Town, Western Cape Province, 22 to 28 November, RSA.

IVITATION AS A GUEST LECTRE

- **2020 To date:** University of Limpopo (UL), School of Agricultural and Environmental Sciences, Department of Agricultural Economics and Animal Production.
- **2020 To date:** Tsolo Agriculture and Rural Development Institute (TARDI), Animal Health.
- **2020 To date:** South West Gauteng (SWGC) TVET College.
- **2016 To date:** Tshwane University of Technology (TUT), Faculty of Science, Department of Animal Science.

PROFESSIONAL MEMBERSHIP

- **2010:** International Embryo Technology Society (IETS) - to date.
- **2018:** Registered with South African Council for Natural Scientific Professions (SACNASP) - Professional Natural Scientist (Pr.Sci.Nat) - to date.

PROFESSIONAL TRAINER

- **2017:** Facilitator- in review.
- **2018:** Assessor (Regri -SETA reg No: AGRI/ASS/2084/18), to date.
- **2017:** Moderator- in review.

REFERENCES

Prof. T.L Nedambale

Research Professor

Tshwane University of Technology (TUT),

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