

June 7, 2022

CURRICULUM VITAE

Name: Liesl Nel-Themaat

Legal Name: Liesl Nel ver Loren van Themaat

Title: Regional IVF Lab Director, Assistant Professor

Work Address: Stanford Fertility and Reproductive Health
Stanford Lucile Packard Children's Hospital
IVF Laboratory
1195 W Fremont Ave
Sunnyvale, CA 94087

Cell Phone: 713-586-9933

Email Address: lieslnt@stanford.edu

Citizenship: South African, American (USA)

EDUCATION

Doctor of Philosophy (Animal Reproductive Physiology), May 2006.

Louisiana State University, Baton Rouge, LA
Advisor: Robert Godke, Ph.D.

Executive Masters of Business Administration (EMBA), March, 2022.

Daniels School of Business, University of Denver, CO.

B.Sc. Agriculture (Physiology and Biochemistry), Dec 2000.

University of Stellenbosch, South Africa

CERTIFICATIONS

High Complexity Lab Director (American Board of Bioanalysis)

Technical Supervisor (American Board of Bioanalysis)

Specialty: Embryology

PROFESSIONAL APPOINTMENTS

IVF Lab Director and Associate Professor (06/01/2022 – present)

Stanford University Infertility and Reproductive Health, Sunnyvale, CA

- All aspects of directing the IVF lab, including all regulatory compliance activities, legal liaison for the hospital and Stanford's legal department and the IVF clinic, supervision of all personnel, procedures, processes, outreach, etc.

- Advisor to the REI lab that provides andrology and endocrine tests.
- REI Fellowship Faculty: Participate in selecting of fellows and education via a lab lecture series and rotation of REI fellows through the embryology and andrology/endocrine labs.
- Participating in collaborative research with several faculty members and fellows in the ObGyn department and beyond.
- Director of the Stanford University RENEW BioBank.
- Primary investigator on several industry sponsored grants.

Regional IVF Lab Director (2021-present)

Shady Grove Fertility, Colorado

- Made the initial introductions for acquisition of the CU ARM program by SGF.
- Designed and helped oversee the new lab built.
- Responsible for arranging and managing the entire move, including all lab and non-lab assets as well as the entire cryoinventory collection to two different locations.
- Involved in re-hiring of employees from CU ARM to SGF CO. Setup and start-up of the new labs after the transition.
- Lead the lab team during the preparation and integration with a new EMR, under new ownership in a new location with all the challenges that the COVID-19 pandemic brought.
- Currently directing all lab operations for one embryology and two andrology/endocrine labs.

IVF Lab Director and Assistant Professor (09/01/2018-4/30/22)

University of Colorado Advanced Reproductive Medicine, (CU ARM) Denver CO

- All aspects of directing two clinical (andrology/endocrine) and one embryology lab, including all regulatory compliance activities, legal liaison for the hospital and CUs legal department and CU ARM, supervision of all personnel, procedures, processes, outreach, etc.
- Currently responsible for managing the remaining post-transition inventory until disposition has been determined for all specimens.
- REI Fellowship Faculty: Participate in selecting of fellows and education via a lab lecture series and rotation of REI fellows through the embryology and andrology/endocrine labs.

IVF Lab Team Leader, (02/01/2016-08/31/2018), and

Andrology/Endocrine Lab Director (06/2017-8/31/2018)

University of Colorado Advanced Reproductive Medicine, Denver CO

IVF Offsite Lab Director/Mentor: Sangita Jindal, Ph.D., HCLD (ABB)

- Served as team Leader supervising 4 labs under off-site director. Embryology, andrology and endocrinology team leader and andrology/endocrine lab director.
- REI Fellow selection committee. Participate in education via a lab lecture series and lab exposure of REI fellows.

Clinical embryologist (10/01/2011-12/17/2015)

Colorado Reproductive Endocrinology (CRE), Denver CO

Medical Director: Susan Trout, MD

Lab Director: Jonathan van Blerkom, Ph.D.

- All aspects of clinical embryology, general lab maintenance, electronic record keeping, marketing, website design and maintenance.

Clinical embryologist (02/01/10 – 04/01/2011)

Reproductive Biology Associates (RBA), Atlanta GA

Lab Director: Peter Nagy, M.D., Ph.D., HCLD (ABB)

- All aspects of clinical embryology.
- Scientific writing and publication.
- Preparation of IRB applications.
- Clinical embryology-related research.

Adjunct Professor: (08/11/09-12/11/09)

St. Thomas University, Department of Biology, Houston, TX

- Teaching Biology lab to undergraduate students.

Postdoctoral Fellow (04/01/06 – 02/01/10)

Mentor: Richard Behringer, Ph.D.

U.T. M.D. Anderson Cancer Center, Dept. Molecular Genetics, Houston, TX.

- M.D. Anderson Postdoctoral Association Steering Committee member (2007-2010).
- M.D. Anderson ambassador (Educating students about cancer), 2007-2010.
- Mentor to summer student, C.U.R.E. program 2007.
- Coordinator of Reproductive Biology Trainee monthly seminar 2006-2007.
- Collaborating with Houston Zoo, Inc. to establish a biological resource bank for the zoo animal collection.

Research Projects

- Cellular mechanisms of sex cord formation. Production and live imaging of transgenic mice for visualization and characterization of Sertoli cell behavior during sex cord formation (including production of transgenic mice, morphometric analysis, establishing culture and imaging system, and generating 3D models of development).
- Vascularization of developing gonads. Using transgenic models to characterize vascular development in male and female embryonic gonads.
- Nuclear transfer and oocyte activation in the mouse.

Graduate Research Assistant (01/08/01 – 03/31/06)

Mentors: Robert Godke, Ph.D. and Martha Gomez, Ph.D.

Louisiana State University, Baton Rouge, LA and Audubon Center for Research of Endangered Species, New Orleans, LA.

- USDA National Animal Germplasm Program. Collection and cryopreservation of endangered Louisiana Native Sheep semen.
- Cell culture and database maintenance for the Frozen Zoo

Research Projects

- Isolation and culture of epithelial cells from ram and eland antelope semen.
- Interspecies nuclear transfer of semen-derived eland somatic cells into bovine oocytes.
- Evaluation of semen qualities in first and second ejaculates from endangered rams.
- Freezing tissues under field conditions.

Laboratory Technician (DNA analyst): 01/01- 06/01

Laboratory of the Government Chemist (LGC), London, UK.

- PCR: Sample processing and data entry, reagent preparations, preparation and loading of PCR plates, 36 and 96 sample vertical gel electrophoresis, data transfer to analysis lab.

Animal keeper and veterinary assistant: 12/99- 01/2000

Hoedspruit Research and Breeding Center for Endangered Species, South Africa.

- Educator, tour guide, animal keeper, veterinary assistant.

PROFESSIONAL ASSIGNMENTS

College of Reproductive biologists

CRB Credentialing and Membership Committee member (May 2019 – present)

CRB 2022 Congress Planning Committee (2021-present)

Supervisor Board Member (April 2018 – May 2019)

Chair of the Legislative Committee (April 2018 – May 2019)

Society of Reproductive Biologists and Technologists (SRBT)

SRBT President (2021-current)

SRBT President elect (2020-2021)

SRBT Vice President (2019-2020)

SRBT Board Member at large (2018 – 2019)

SRBT Practice Committee Member (2017 – 2018)

SRBT Salary Survey Committee member (2016 - present)

SRBT Research Committee member (2013 - 2016)

Society for Reproductive Technology (SART)

ART Practice Committee member (2019 – present)

Colorado Association of Reproductive Technologists

CART Founder and President (2014 – 2018)

- Founded and served as president of this local embryology/andrology association.
- Developed mission statement, bylaws, logo, designed website, registered with state and federal agencies, opened bank account to establish CART and communicate with CART members as well as vendors for sponsorship. (website: www.coloart.org)
- Arrange quarterly events (seminars, debates etc.) and worked with CART Board to manage all CART-related activities.

American College of Embryology (ACE)

Board Member, Secretary and Embryology Insights Coordinator (2014 - present)

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

International IVF Initiative (i3, Founding Member, Organizer, host and moderator, 2020-present)
American Society of Reproductive Medicine (ASRM) (2012-present)
Society for Assisted Reproductive Technologies (SRBT) (2012- present)
American Board of Bioanalysis (ABB) (2016-present)
College of Reproductive Biologists (CRB) (2016-present)
Colorado Association of Reproductive Technologists (2014-present)
Society for the Study of Reproduction (SSR) (2006-2010)
Texas Forum for Reproductive Sciences (TFRS) (2006-2010)
International Embryo Transfer Society (IETS) (2001-2005)
American Zoo and Aquarium Association (AZA) (2001-2005)

SKILLS

Clinical

- All modern and traditional clinical embryology techniques, including egg retrieval and processing, conventional insemination, ICSI, culture, embryo biopsy (acid tyrodes or laser), FISH analysis of biopsied blastomeres for aneuploidy screening, vitrification/freezing and warming/thawing of eggs and embryos.
- All clinical andrology techniques (complete semen analysis, semen processing for IUI, IVF and ICSI, ASA-treatment, freezing, thawing, MESA/PESA/TESE processing etc.).
- Endocrinology lab procedures using Roche CObas e411 to run reproductive hormone assays.
- General IVF/Andrology/Endocrine lab maintenance and management (includes, but not limited to: Certification and compliance maintenance (CAP/CLIA/FDA), quality control, equipment maintenance, ordering, electronic and paper record keeping (including EMR/LIS), RedCap database programming, data processing and entry for SART, keeping an open line of communication between different departments and the labs, statistical analysis for publication and oral/poster presentations, grant proposal and IRB application preparation, program marketing.

Academic

- Extensive training in experimental design, basic and advanced laboratory techniques for research.
- Laboratory skills include, but are not limited to: cell and organ culture, manipulation and cryopreservation; pre- and post-implantation embryo production (IVM, conventional and piezo-driven nuclear transfer cloning, ICSI), manipulation and evaluation using various techniques (immunohistochemistry, histology etc).
- Various modes of semen collection, processing, evaluation and cryopreservation.
- Molecular biology techniques, including cloning and construct preparation, production of transgenic mice, transfection, PCR genotyping and gel electrophoresis.
- Broad experience in various types of microscopy (including Laser Scanning Confocal and Spinning Disc Laser Confocal); development of live imaging systems using bright field and fluorescent microscopy. Image processing, 3D reconstruction and modeling.
- Biomaterial banking and management.
- Data processing and statistical analysis for publication and oral/poster presentation, grant proposal preparation. IRB application.
- Mentoring and teaching.
- As the SRBT president elect and Program Committee Chair I was responsible for planning and arranging the entire SRBT program for ASRM 2021, including symposia, interactive sessions and round tables.

SPECIALIZED TRAINING

- Donor Egg Bank USA Egg vitrification and warming training (2021).
- Roche Cobas e411 Operator Training, Indianapolis, IN (2017)
- Fairfax vitrified Egg Thawing, Denver CO (2016).
- My Egg Bank Vitrified Egg Thawing, Atlanta GA (2010).

AWARDS

Texas Forum for Reproductive Sciences (2009)

3rd place for poster presentation.

Texas Forum for Reproductive Sciences (2007)

Honorary mention for best oral presentation.

J. Bennett Johnston Science Foundation Grant (2002)

Cryopreservation of semen collected from the endangered Gulf Coast Native sheep.

PEER JOURNAL REVIEWER

Fertility and Sterility (ASRM Congress Abstract Reviewer)

Reproductive Biomedicine Online (current)

Journal of Ovarian Research (formerly)

Biology of Reproduction (formerly)

Developmental Dynamics (formerly)

PRESENTATIONS

Platform

- Moderated ASRM Debate entitled: To ICSI ALL or NOT to ICSI all. That is the question at ASRM 2021 conference.
- CU Advanced Reproductive Medicine REI Fellow Seminar Series (ongoing 2016-present):

Titles:

- Cryopreservation
 - PGS/PGD
 - Extracorporeal Fertilization
 - Post-implantation Reproductive Development
 - Clinical Andrology
 - The Embryo Environment
- CU Advanced Reproductive Medicine Departmental Retreat 2017: *The SAT-us of the IVF lab.*
 - Society for the Study of Reproduction, 41st annual conference, Kona, HI, 2008: *Cellular mechanisms in sex cord formation.*
 - Texas Forum for Reproductive Sciences, 14th Annual conference, Houston, TX, 2008: *Cellular mechanisms in sex cord formation.*
 - Society for the Study of Reproduction, 40th annual conference, San Antonio, TX, 2007: *Production of Sox9-EGFP knock-in mice for visualization of sex cord formation in cultured urogenital ridges.*

- Texas Forum for Reproductive Sciences, 13th Annual conference, Houston, TX, 2007: *Production of Sox9-EGFP knock-in mice for visualization of sex cord formation in cultured urogenital ridges.*
- Gulf Coast Symposium, New Orleans, LA, 2005: *Isolation and characterization of somatic cells from semen.*
- Gulf Coast Symposium, New Orleans, LA, 2004: *Comparison of first and second ejaculates in Gulf Coast Native rams.*
- Gulf Coast Symposium, New Orleans, LA, 2003: *Alternative methods of obtaining somatic cell lines: Preliminary report.*

Virtual

- Arranged, lectured and hosted several i3 webinars of various titles (2020 – ongoing)
- Chaired and recorded two on demand lectures for the SRBT Pre-conference Course entitled “Tricks of the trade: Small things that can make a BIG difference” (2021)

Poster

- American Society for Reproductive Medicine 67th annual meeting, Orlando FL, 2011: *Egg quality and developmental potential from multiple donation cycles in egg bank donors.*
- Texas Forum for Reproductive Sciences 15th Annual conference, Houston, TX, 2009: *Dynamics of cord formation and vascularization in the mouse testis.*
- The Society for Developmental Biology, Southwest-Gulf regional meeting, Houston, TX, 2008.
- U.T. M.D. Anderson Cancer Center, Genes & Development Program Scientific Retreat, March 2007.
- International Embryo Transfer Society 32nd Annual conference, Orlando, FL, 2006.
- International Embryo Transfer Society 31st Annual conference, Copenhagen, Denmark, 2005.
- Association of Zoos and Aquariums 80th Annual conference, New Orleans, LA, 2005
- International Embryo Transfer Society 30th Annual conference, Portland, OR, 2004.
- Association of Zoos and Aquariums 79th Annual conference, Columbus, OH, 2004
- J. Bennet Johnston Science Foundation, Annual conference, New Orleans, LA, 2003.

Round Table

- ASRM 2021, Baltimore MD. Ready, Set, Go! *How to Skyrocket your ART Lab Professional Career.*
- American Board of Bioanalysis annual meeting, New Orleans LA, 2019. *How to Skyrocket your Career.*
- American Board of Bioanalysis annual meeting, Orlando FL, 2018. *Your local embryologist association: How to start one and what it can do for your career.*

PUBLICATIONS

Original Research

Siegel D, Sammel M, **Nel-Themaat L**, Santoro N, Polotsky, A. *Anti-Mullerian hormone and follicle stimulating hormones are poor independent predictors of live birth after assisted reproductive technology.* Fertility and Sterility 2021; 116(3):e264-265.

Hoencamp C, Dudchenko O, Elbatsh AMO, Brahmachari S, Raaijmakers JA, van Schaik T, Sedeño Cacciatore Á, Contessoto VG, van Heesbeen RGHP, van den Broek B, Mhaskar AN, Teunissen H, St Hilaire BG, Weisz D, Omer AD, Pham M, Colaric Z, Yang Z, Rao SSP, Mitra N, Lui C, Yao W, Khan R, Moroz LL, Kohn A, St Leger J, Mena A, Holcroft K, Gambetta MC, Lim F, Farley E, Stein N, Haddad A,

Chauss D, Mutlu AS, Wang MC, Young ND, Hildebrandt E, Cheng HH, Knight CJ, Burnham TLU, Hovel KA, Beel AJ, Mattei PJ, Kornberg RD, Warren WC, Cary G, Gómez-Skarmeta JL, Hinman V, Lindblad-Toh K, Di Palma F, Maeshima K, Multani AS, Pathak S, **Nel-Themaat L**, Behringer RR, Kaur P, Medema RH, van Steensel B, de Wit E, Onuchic JN, Di Pierro M, Lieberman Aiden E, Rowland BD. *3D genomics across the tree of life reveals condensin II as a determinant of architecture type*. Science. 2021; 372(6545):984-989.

Luu TH, Llerena Cari, Rushing J, **Nel-Themaat L**, Polotsky A, Johnson J. *PD-1 receptor ligands are concentrated in the exosome fraction of human ovarian follicular fluid*. Fertility and Sterility 2020;114(3): e104.

Luu H, **Nel-Themaat L**, Truong T, Polotsky A. Public reporting of clinical outcomes in assisted reproductive technology in the US for 2014-2017: *Reporting to CDC only is associated with fewer cancellations and lower success rates*. Fertility and Sterility 2020;114(3):e259.

Johnson J, Sam P, Asokan R, Llerena Cari E, Bales E, Luu TH, Perez L, Kallen A, **Nel-Themaat L**, Polotsky A, Post M, Orlicky D, Jordan K, Bitler M. *Expression and T cell regulatory action of the PD-1 Immune Checkpoint in the Ovary and Fallopian Tube*. bioRxiv preprint 2020. Submitted to Scientific Reports 2020.

Johnson, J, Bales E, Riley J, **Nel Themaat L**, Jungheim E, Polotsky AJ. *Association of Polyunsaturated Fatty Acids and Reduced Markers of Endoplasmic Reticulum Stress with In Vitro Fertilization Success in Patients with Diminished Ovarian Reserve*." SRI 56th Annual Scientific Meeting Abstract (2018), San Diego, California, USA

Nel-Themaat L, Jang CW, Stewart MD, Akiyama H, Viger RS, Behringer R. *Sertoli cell behaviors in developing testicular cords and postnatal seminiferous tubules of the mouse*. Biol. Reprod. 2011; 84(2):342-50. (Featured on cover)

Nel-Themaat L, Gonzalez G, Akiyama H, Behringer RR. *Illuminating testis morphogenesis in the mouse*. J. Andrology 2010;Jan-Feb 31(1):5-10.

Nel-Themaat L, Vadakkan TJ, Wang Y, Dickinson ME, Akiyama H, Behringer RR. *Morphometric analysis of testis cord formation in Sox9-EGFP mice*. Dev. Dyn. 2009; 238(5):1100-1110.

Kloc M, Jaglarz M, Dougherty M, Steward MD, **Nel-Themaat L**, Bilinski S. *Mouse early oocytes are transiently polar: Three-dimensional and ultrastructural analysis*. Exp. Cell Res. 2008; 314(17): 3245-3254.

Nel-Themaat L, Gómez MC, Pope CE, Lopez M, Wirtu G, Cole A, Dresser BL, Lyons LA, Bondioli KR, Godke RA. *Cloned Embryos from Semen. Part 1: In Vitro Proliferation of Epithelial Cells on Embryonic Fibroblasts after Isolation from Semen by Gradient Centrifugation*. Cloning Stem Cells. 2008; 10(1):142-160.

Nel-Themaat L, Gómez MC, Pope CE, Lopez M, Wirtu G, Jenkins JA, Cole A, Dresser BL, Bondioli KR, Godke RA. *Cloning from Semen. Part 2: Intergeneric Nuclear Transfer of Semen-Derived Eland (Taurotragus Oryx) Epithelial Cells into Bovine Oocytes*. Cloning Stem Cells. 2008; 10(1): 161-172.

Nel-Themaat L, Akyama, H, Deng JM, Zhang Z, de Crombrughe B, Behringer R, 2007. *Production of Sox9-EGFP knock-in mice for visualizatuion of sex cord formation in cultured urogenital ridges* (Abstract 511). Biol. Reprod. Special Issue, 207.

Nel-Themaat L, Gómez MC, Damiani P, Wirtu G, Dresser BL, Bondioli KR, Lyons LA, Pope CE, Godke RA. *Isolation, culture and characterization of somatic cells derived from semen and milk of endangered sheep and eland antelope*. *Reprod. Fertil. Dev.* 2007; 19:576-584. (Featured on cover)

Nel-Themaat L, Harding GD, Chandler JE, Chenevert JF, Damiani P, Fernandez JM, Humes PE, Pope CE, Godke RA. *Quality and freezing qualities of first and second ejaculates collected from endangered Gulf Coast Native rams*. *Anim. Reprod. Sci.* 2006; 95:251-261.

Nel-Themaat L, Gómez MC, Wirtu G, Cole A, Bondioli KR, Dresser BL, Godke RA, Pope CE. *Somatic cell isolation from semen by percoll gradients*. *Reprod. Fertil. Dev.* 2005; 17: 314-315. (Abstract)

Nel-Themaat L, Godke RA, Dresser BL, Damiani P. *Isolation and culture of somatic cells obtained from semen and milk of gulf Coast Native sheep*. *Reprod. Fertil. Dev.* 16[2], 152-153. 2004. (Abstract)

Other

Pomeroy KO, Comizzoli P, Rushing JS, Lersten IL, **Nel-Themaat L**. *The ART of cryopreservation and its changing landscape*. *Fertil Steril.* 2022; 117(3):469-476.

Simon C, Campbell A, Gardner DK, Meseguer M, Miller KA, Montag M, Palermo GD, Cheung S, Keating D, Xie P, Rosenwaks Z, Rienzi L, Innocenti F, Cimadomo D, Ubaldi FM, Sakkas D, Tucker MJ, **Nel-Themaat L**. *In vitro fertilization and andrology laboratories in 2030*. *Fertil Steril.* 2021 Jul;116(1):2-3.

Campbell A, Gardner DK, Meseguer M, Miller K, Montag M, Palermo GD, Chueng S, Keating D, Xie P, Rosenwaks Z, Rienzi L, Innocenti F, Cimadomo D, Ubaldi FM, Sakkas D, Tucker M, **Nel-Themaat L**, Simon C. *In vitro fertilization and andrology laboratory in 2030: expert visions*. *Fertility and Sterility* 2021; 116(1):1-12.

Nel-Themaat L, Chang C-C, Elliott T, Bernal P, Wright G, Nagy ZP. *Slow freezing of embryos*. In: Nagy ZP, Varghese AC, Agarwal A, eds. *In Vitro Fertilization: A Textbook of Current and Emerging Methods and Devices*, Second Edition. New York, NY: Springer; 2021.

Chang TA, Chang C, **Nel-Themaat L**, Smith S, Zozula S, Su Y. *Reproductive Laboratory Biennial Salary and Job Satisfaction Survey and Analysis 2017-2018*. *Survey Analysis and Report, American Society for Reproductive Medicine - Society of Reproductive Biologists and Technologists (2019)*

Chang TA, Chang C, **Nel-Themaat L**, Smith S. *Reproductive Laboratory Biennial Salary and Job Satisfaction Survey and Analysis 2015-2016*. *Survey Analysis Presentation and Report, American Society for Reproductive Medicine - Society of Reproductive Biologists and Technologists 2016 Annual Meeting, and SRBT Spring 2017 Newsletter*

Nagy ZP, **Nel-Themaat L**, Chang C-C, Shapiro DB, Bernal DP. *Cryopreservation of eggs*. *Methods Mol Biol.* 2014;1154:439-54.

Nel-Themaat L, Chang C-C, Elliott T, Bernal P, Wright G, Nagy ZP. *Slow freezing of embryos*. In: Nagy ZP, Varghese AC, Agarwal A, eds. *Practical Manual of In Vitro Fertilization: Advanced Methods and Novel Devices*. New York, NY: Springer; 2012:529-538.

Nel-Themaat L, Elliott T, Chang C-C, Wright G, Nagy ZP. *Conventional IVF insemination*. In: Nagy ZP, Varghese AC, Agarwal A, eds. *Practical Manual of In Vitro Fertilization: Advanced Methods and Novel Devices*. New York, NY: Springer; 2012:297-305.

Nel-Themaat L, Nagy ZP. *A review of the promises and pitfalls of embryo metabolomics*. *Placenta* 2011; 32(Suppl. 3):S257-63.

Chang C-C, **Nel-Themaat L**, Nagy ZP. *Cryopreservation of oocytes in experimental models*. *Reprod. BioMed. Online* 2011;23(3):307-13.

UNPUBLISHED STUDIES

Characterization of gonad vascularization in transgenic mouse models.

Flk1-mCh transgenic mice were used to study vascularization events in the gonad of mouse embryos via organ culture, live imaging and fluorescent microscopy of frozen sections.

Freezing Biopsies under Field Conditions: Comparison of different freezing media and equilibration time on cell survival in the dermal and epidermal layers of flash-frozen biopsies.

Using different techniques to cryopreserve skin biopsies in liquid nitrogen under field conditions. Evaluated effect of tissue type, equilibration time and three different freezing media.

Culture and characterization of cells from plucked hair follicles

A non-invasive technique to obtain somatic cells from animals for culture and biological resource banking.

HOBBIES AND INTERESTS

- Sport – Snowboarding, running, mountain biking, scuba diving, hiking, piano. Member of several provincial and national sport teams during high school and college (including South African student volleyball team for World Student Games, 1999).
- Painting (exhibiting artist).
- In the process of completing private pilot license.

REFERENCES

Available upon request.

Liesl Nel-Themaat, Ph.D., HCLD

Date