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Candidats

MAISTRY, Tanya (102944)

- Formulaire de candidature
- Lettre de motivation
- CV
- Liste de publications
- Copie de diplôme
- Liste de références
- Autre document

Candidat	MAISTRY, Tanya
Adresse e-mail	tanyamaistry@hotmail.com
Poste	Chargé-e d'enseignement / 2774
Document	Formulaire de candidature
Candidature enregistrée le	26-06-2018 10:30

Données personnelles / Personal information

Titre	Madame
Nom d'usage	MAISTRY
Prénom	Tanya
Date de naissance	09-11-1981
Nationalité(s)	Afrique du Sud
Chez	P.O BOX 477
Rue	17 ARBEE DRIVE, FLAT 1, MP CENTRE
No	
Ville	KWAZULU NATAL
No postal	4399
Pays	Afrique du Sud
Téléphone mobile	0027713519841
Téléphone fixe	0027329452904
Comment avez-vous eu connaissance du poste ?	Job boards

Parcours professionnel / Career path

Fonction actuelle	Assessment Coordinator (2nd year MBCHB programme)
Institution	University of KwaZulu Natal
Période	Jul 2017-current
Taux d'activité	N/A
Fonction précédente	Bioethics reviewer
Institution	University of KwaZulu Natal
Période	Feb 2013-January 2018
Taux d'activité	N/A
Fonction antérieure	Postdoctoral Researcher
Institution	University of KwaZulu Natal
Période	Jul 2015-June 2017
Taux d'activité	N/A
Autre expérience relevante pour le poste	Anatomy Tutor (University of KwaZulu Natal) (Feb 2008-Nov 2008)

Formation / Education

Titre le plus élevé	PhD
Année d'obtention	2015
Lieu d'obtention	University of KwaZulu Natal
Titre de la thèse de doctorat ou du mémoire de maîtrise	Genetic contribution for the risk for metabolic syndrome: an investigation of candidate gene polymorphisms related to lipid and carbohydrate metabolism

Connaissances / Knowledge

1ere langue	Anglais
Niveau	Confirmé / confirmed
2e langue	Afrikaans
Niveau	Basique / basic
3e langue	Français
Niveau	Basique / basic
Autres connaissances	Research Ethics Evidence-base medicine/study designs; and critical appraisal of clinical trials; presentation skills Research Development Statistics Grant Writing

Documents / Attachments

Lettre de motivation	Cover letter.pdf
Curriculum vitae	CV GENEVA.pdf
Copie de diplômes	Certificates.pdf
Liste de publications	Publication List.pdf
Liste de références	References.pdf
Autre document	Teaching_Research Portfolio.pdf

P.O Box 477
Tongaat
4399
KwaZulu Natal
South Africa

7 June 2018

Re: Lecturer in Anatomy

To the head of department/recruitment officer,

I'm submitting this letter to express my strong desire to be considered for the position of "lecturer in anatomy" at your institution.

I have a PhD with 2 years postdoctoral experience. Below is a brief overview of my competencies/experiences viz.

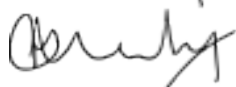
- Strong experience in teaching anatomy/physiology courses
- Profound knowledge of anatomical dissection methodologies/techniques
- Wide knowledge of curriculum design, development, and delivery
- Familiarity with medical research
- Good understanding of anatomical sciences and anatomy resources
- Ability to prepare course content
- Ability to revise curriculum to optimize student learning
- Ability to maintain positive working relationships with students
- Facilitated problem based learning classes
- Maintained student attendance and grade reports
- Provided support in curriculum development
- Participated in campus meetings and educational committees
- Assisted in resolving academic issues promptly
- Adhered to academic policies at all times
- Provided assignments and homework for students
- Prepared examination papers and graded student examinations
- Attended professional conferences and workshops
- Participated in discussions on the medical program
- Assisted in research activities
- Prepared papers for journals and publications
- Addressed research and teaching issues

I hope you find the above suitable and I would be most grateful if the faculty could consider my application for employment. I believe that professional development provided by information-rich universities/colleges can reinforce and strengthen research and teaching in the field of biology in developing countries (like South Africa).

It will be a pleasure to answer any questions you may have relating to my scientific career and or teaching skills.

Thank you for your consideration.

Yours sincerely,
Dr. Tanya Maistry



BIOGRAPHICAL SKETCH: DR. TANYA MAISTRY**Personal Details**

Date of Birth	9/11/1981
Nationality	South African
Drivers' License	Code 08
Gender	Female
Disability	Nil
Marital Status	Single
No. of dependants:	Nil
Criminal offence	Nil
Contact Details	
Home	+27329452904
Mobile	+27713519841
Email	tanyamaistry@hotmail.com
Address	
Residence	17 Arbee Drive, Flat1, MP Centre, Tongaat, 4399, South Africa
Postal	P.O Box 477, Tongaat, 4399, South Africa

Employment History

Current Position (s):

- * Assessment Coordinator (2nd year MBCHB programme) (University of KwaZulu Natal) (Jul 2017-current)
Referee: Prof I Mackraj- Email: mackraji@ukzn.ac.za; Mobile: +27729085646
- * Facilitator (2nd year MBCHB programme) (University of KwaZulu Natal) (Feb 2011-current)
Referee: Prof I Mackraj- Email: mackraji@ukzn.ac.za; Mobile: +27729085646

Previous Position (s):

- * Ethics Committee Member (University of KwaZulu Natal) (Feb 2013-current)
Referee: Prof D Wassenaar- Email: wassenaar@ukzn.ac.za; Mobile: +27824588957
- * Postdoctoral Researcher (University of KwaZulu Natal) (Jul 2015-June 2017)
Referee: Prof DP Naidoo- Email: naidood@ukzn.ac.za; Mobile: +27836257321
- * Academic Coordinator (1st year MBCHB programme) (University of KwaZulu Natal) (Sept 2010-Feb 2011)
Referee: Dr. N Sundelall - Email: Sunderlalln@ukzn.ac.za; Mobile: +27836616679
- * Anatomy Tutor (University of KwaZulu Natal) (Feb 2008-Nov 2008)
Referee: Ms. L Lazaras - Email: ramsaroopl@ukzn.ac.za; Mobile: +27832751910
- * Laboratory Technician (Lancet Laboratories) (Nov 2005-May 2006)
Referee: Ms. S Chetty - Email: shirileen.chetty@lancet.co.za; Mobile: +27846195719

Education/Training

INSTITUTION AND LOCATION	DEGREE	COMPLETION YEAR	FIELD OF STUDY
University of KwaZulu Natal, South Africa	BMedSc	2004	Medical Science (Physiology/Anatomy)
University of KwaZulu Natal, South Africa	BMedScHon	2006	Clinical Anatomy
University of KwaZulu Natal, South Africa	MMedSc	2010	Clinical Anatomy
University of KwaZulu Natal, South Africa	PhD	2015	Cardiology (Metabolic Disorders/Genetics)
University of KwaZulu Natal, South Africa (postdoc)	N/A	2017	Cardiology (Metabolic Disorders/Genetics)

A. Personal Statement

My academic training and or research experience has provided me with an excellent background in anatomy. My teaching career in the field of anatomy has been enlightening, coupled with inevitable successes and challenges- *please refer to teaching portfolio included*. My research on the other hand focuses on Cardiovascular Genetics/Metabolic Disorders, (candidate gene polymorphisms associated with the Metabolic Syndrome and Cardiovascular Disease) and cadaveric studies of arteries that supply the soft palate. I have gained expertise in various laboratory techniques viz. DNA isolation, real time PCR, sequencing (to name a few). My postdoctoral training at the School of Clinical Medicine, University of KwaZulu Natal, South Africa focused on the apolipoprotein A5 gene and their associations with the metabolic syndrome.

During my postgraduate career, I received several research grants and or scholarships indicating exceptional grant writing and or management skills. I've attended several career development workshops – e.g. grant writing, presentation skills, excel, biostatistics, evidence-base medicine/study designs, critical appraisal of clinical trials and further mentored students which enhanced my ability to be an independent scientist. Furthermore, I am familiar with national and international health acts due to my involvement at the Biomedical Research Ethics Committee, University of KwaZulu Natal. I am therefore familiar with study designs, management, evaluation of study protocols and health status questionnaires, sample selection and data analysis. I have further attended and presented papers at national and international forums-refer below. My training and experience will give me a solid foundation to serve the interests of the institution very well.

B. Positions and Honors

Academic and Professional Honors

South Africa National Research Foundation PhD Scholarship, 2011

Loewenstein PhD Scholarship (Investec), 2011

South African Centre for Epidemiological Modeling and Analysis PhD Scholarship, 2011-2014

University of KwaZulu Natal PhD Scholarship, 2012-2013

University of KwaZulu Natal Postdoctoral Scholarship, 2015-2017

University of KwaZulu Natal Postdoctoral Research Grant, 2015-2017

South Africa National Research Foundation Knowledge Interchange and Collaboration Travel Grant, 2016

University of KwaZulu Natal Travel Grant, 2017

European Atherosclerosis Society Travel Grant, 2017

South African Medical Research Council Self-Initiated Research Grant, 2016-2018

NRF/SARChI Postdoctoral Fellowship, 2018-2019

Membership in Professional Societies

Golden Key Society

European Atherosclerosis Society

C. Contributions to Science

Summary of my contributions to science: Cleft Lip/Palate (with particular focus on arterial supply), Human Anatomical Variation (adults and fetuses); Medical Education, Cardiovascular Genetics (with particular focus on the genetics associated with the metabolic syndrome/ cardiovascular disease/ insulin resistance/ obesity and or diabetes). Contributions to science have been organized into three time periods: I. MMedSc; II. PhD; and III. Postdoctoral, as below:

- I. MMedSc: My early career contributions were focused on applying my knowledge of anatomy to identify arteries supplying the soft palate. My particular role in the project was to identify the branching patterns, anastomotic connections and arterial variations of the soft palate that could be of clinical importance during cleft lip/palate repairs.
- II. PhD: My graduate research contributions focused on establishing the genetic profile in a randomized sample of subjects in the Asian South African community and to determine genetic patterns that were associated with the metabolic syndrome. Results from my research were highly relevant as they provided new details on the genetic patterns of candidate gene polymorphisms related to lipid and carbohydrate metabolism, insulin resistance and obesity in participants with the metabolic syndrome. This allowed for further extrapolations into gene studies and their association with the metabolic syndrome and cardiovascular diseases in Asian South Africans.
- III. Postdoctoral: My postdoctoral training focused on evaluating apolipoprotein A5 polymorphisms as potential genetic determinants for the metabolic syndrome in a high risk Asian Indian community. Previous studies have shown an association between gene polymorphisms in the promoter region of the apolipoprotein A5 locus with elevated triglycerides levels and the metabolic syndrome. Apolipoprotein A5 polymorphisms therefore appear to play a role in gene transcription and apolipoprotein A5 levels and identifying the genetic variants may allow for the predisposition of cardiovascular disease in the studied cohort.

D. Scholastic Performance

Key: C (current)

YEAR	SCIENCE COURSE TITLE	INSTITUTION
2011	Problem Based Learning/Facilitator Workshop	University of KwaZulu Natal, South Africa
2012	Research Development	University of KwaZulu Natal, South Africa
2012	Bioethics	University of KwaZulu Natal, South Africa
2013	Research Supervision	University of KwaZulu Natal, South Africa
2013	Statistics	KRITH in collaboration with Harvard University, US
2013	Grant Writing	University of KwaZulu Natal, South Africa
2014	Excel	University of KwaZulu Natal, South Africa
2015	Evidence-base medicine/study designs; and critical appraisal of clinical trials; presentation skills	Norvartis, South Africa
C	Research Ethics	National Institute of Health, US
C	Research Ethics	Training and Resources in Research Ethics Evaluation, US
2017	French for beginners	University of KwaZulu Natal, South Africa

E. Publication List

Published/Peer Reviewed Manuscripts (1); Manuscripts in Press (1); Manuscripts submitted and under review (1); Manuscripts in preparation (3); Published/Referred Abstracts (4); Conference Proceedings (15)- refer below:

Published/Peer Reviewed Manuscripts

1. An anatomical review of the arterial supply to the soft palate
T Maistry, L Ramsaroop, P Partab, KS Satyapal
International Journal of Morphology: 2012; 30 (3): 847-857

Manuscripts in press/provisionally approved for publication

1. Candidate gene polymorphisms related to lipid metabolism in Asian Indians living in Durban, South Africa
Maistry T, Sartorius B, Gordon M, Naidoo DP
Indian Journal of Medical Research- Manuscript #: IJMR 1150-16

Manuscripts submitted and under review

1. Single nucleotide polymorphisms associated with insulin resistance in Asian Indians with the metabolic syndrome
Maistry T, Sartorius B, Gordon M, Naidoo DP
Metabolic Syndrome and Related Disorders- Manuscript #: MET-2016-0140

Manuscripts in preparation

1. A review of the metabolic syndrome
Maistry T, Sartorius B, Gordon M, Naidoo DP
2. Gene-lifestyle interaction and the metabolic syndrome
Maistry T, Sartorius B, Gordon M, Naidoo DP
3. The emergence of the metabolic syndrome with age in Asian Indians
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1. Arterial variations of the ascending palatine artery
Maistry T, Lazaras L, Satyapal KS
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Proceedings of the South African Heart Congress (spring edition), Gauteng, South Africa, 2015
South African Heart Journal: 2015; 12 (4): 209
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Atherosclerosis: 2017; (in press)

Conference Proceedings

1. Arteries supplying the soft palate: a cadaveric study.
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14. Single nucleotide polymorphisms associated with the metabolic syndrome in Asian Indians with insulin resistance
Maistry T, Sartorius B, Gordon M, Naidoo DP
Proceedings of the 85th European Atherosclerosis Society, Prague, Czech Republic, April 2017
15. Gene-environmental interaction and the Metabolic Syndrome in Asian Indians with Insulin Resistance
Maistry T, Sartorius B, Gordon M, Naidoo DP
Proceedings of the 86th European Atherosclerosis Society, Lisbon, Portugal, May 2018

F. References

1. Doctor Pamela Soobramoney (Department of Clinical Anatomy, University of KwaZulu Natal, South Africa). Email: soobramoneypa@ukzn.ac.za ; Office: 0027 31 260 7789, Fax: 0027 31 260 7890; Mobile: 0027812700879
2. Professor Datshana P Naidoo (Department of Cardiology, University of KwaZulu Natal, South Africa). Email: naidood@ukzn.ac.za; Office: 0027 31 240 2207, Fax: 0027 31 240 2225; Mobile: 0027836257321
3. Professor Irene Mackraj (Department of Laboratory Medicine and Medical Science, University of KwaZulu Natal, South Africa). Email: mackraji@ukzn.ac.za; Office: 0027 31 2607770; Mobile: 0027729085646

Publication List

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UNIVERSITY OF KWAZULU-NATAL

The Universities of Durban-Westville and Natal merged
to become the University of KwaZulu-Natal on 1 January 2004

This is to certify that

Tanya Maistry

was admitted this day
at a congregation of the University
to the degree of

Bachelor of Medical Science

having satisfied the conditions prescribed for the degree.
The studies were completed at the former University of Durban-Westville

~~RECEIVED~~ A TRUE COPY OF THE ORIGINAL

Rayan

COMMISSIONER OF OATHS
JOY PREMAVENI NARAIN
PRACTISING ATTORNEY
FIRST FLOOR, DENBECCA CENTRE
14 ARBEE DRIVE, TONGAAT
PROVINCE OF KWAZULU-NATAL
REPUBLIC OF SOUTH AFRICA

M W Makgoba
Interim Vice-Chancellor

E Mneney
Interim Registrar

J A O Ojewole
Dean

12 May 2004



UNIVERSITY OF KWAZULU-NATAL

The Universities of Durban-Westville and Natal merged
to become the University of KwaZulu-Natal on 1 January 2004

This is to certify that

~~RECEIVED A TRUE COPY OF THE ORIGINAL~~

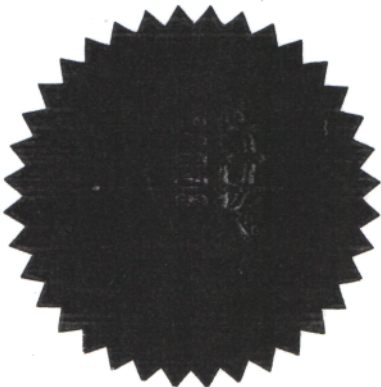
Tanya Maistry

was admitted this day
at a congregation of the University
to the degree of

COMMISSIONER OF OATHS
JOY PREMAVENI NARAIN
PRACTISING ATTORNEY
FIRST FLOOR, DENBECCA CENTRE
14 ARBEE DRIVE, TONGAAT
PROVINCE OF KWAZULU-NATAL
REPUBLIC OF SOUTH AFRICA

Bachelor of Medical Science Honours

having satisfied the conditions prescribed for the degree.



M W Makgoba
Vice-Chancellor

E Mneney
Registrar

S Y Essack
Dean

17 April 2007

LIV PROTECTED



Premaveni
~~RECEIVED A TRUE COPY OF THE ORIGINAL~~
COMMISSIONER OF OATHS
JOY PREMAVENI NARAIN
PRACTISING ATTORNEY
FIRST FLOOR, DENBECCA CENTRE
14 ARBEE DRIVE, TONGAAT
PROVINCE OF KWAZULU-NATAL
REPUBLIC OF SOUTH AFRICA

UNIVERSITY OF KWAZULU-NATAL

This is to certify that

Tanya Maistry

was admitted this day
at a congregation of the University
to the degree of

**Master of Medical Science
(Anatomy)**

having satisfied the conditions prescribed for the degree.



M W Makgoba
Vice-Chancellor

J J Meyerowitz
Registrar

S Y Essack
Dean

23 April 2010



UNIVERSITY OFTM
KWAZULU-NATAL

**INYUVESI
YAKWAZULU-NATALI**

This is to certify that

Tanya Maistry

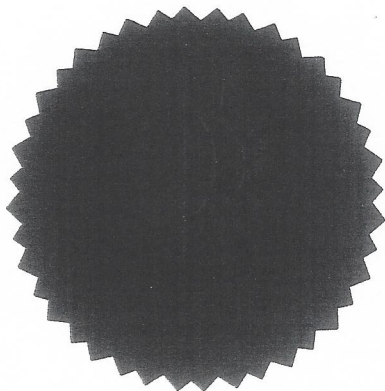
was admitted this day
at a congregation of the University
to the degree of

Doctor of Philosophy
(Cardiology)

**CERTIFIED TRUE
COPY OF
THE ORIGINAL**

COMMISSIONER OF OATHS
BALA KANTHA NAIDOO
SUITE 1, ASHANTI CENTRE
19 ARBEE DRIVE, TONGAAT
PRACTISING ATTORNEY R.S.A – S.W.A.

having satisfied the conditions prescribed for the degree.



A S van Jaarsveld
Vice-Chancellor

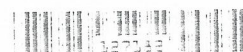
B Poo
Acting Registrar

RJ Hiji
Dean



15 April 2015

LIV PROTECTED



References

1. Doctor Pamela Soobramoney (Department of Clinical Anatomy, University of KwaZulu Natal, South Africa). Email: soobramoneypa@ukzn.ac.za ; Office: 0027 31 260 7789, Fax: 0027 31 260 7890; Mobile: 0027812700879
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Teaching Portfolio: Dr. Maistry

Teaching Philosophy

Introduction

"It is the supreme art of the teacher to awaken joy in creative expression and knowledge"

- Albert Einstein

Teaching anatomy reflects my appreciation for the human body.

I aspire to provide meaningful links with the subject and with my students; and further aim for my students to take with them true knowledge and a simplistic approach to understanding the wonders and joys of the human body.

Pursuing anatomy through four degrees (BMedSc, BMedScHons, MMedSc, PhD) has allowed me to understand the learning process. As a result, I strive to teach anatomy in the hope that students retain the content taught rather than memorize it. This is achieved by teaching study skills and how the student should learn. I teach students to integrate visual learning with a verbal review of the anatomical structures, associations, functions etc.

Anatomy is undoubtedly a layered experience, a necessity, and the foundation for medical practice and or any health care profession. The program forms a critical link for identifying chronic diseases, repairing fractures, treating muscular injuries, diagnosing complex dysfunctions etc. and guiding patients to overall well-being, indicating the significance for training in the subject.

Teaching Overview

"The foundation of the study of the art of operating must be laid in the dissecting room"

- Robert Liston

My background in anatomy ranges from tutoring to facilitating, being a demonstrator and ultimately an assessment coordinator. During these stages of my teaching career, I observed that teaching anatomy requires patience and the anatomists' need to ensure that lectures are informative, interactive, meaningful and most importantly fun.

Being involved in problem-based learning (PBL) for several years, I observed that by using case studies, students link basic science with clinical features, which integrates and enhances the students' knowledge. Further, online

computer based anatomy material have also enhanced anatomy learning within my dissection laboratory.

These methods add tremendously to the development of medical education but can never truly replace the traditional conventional methods. I have found that exposure and integration using the differing teaching methods in dissection procedures adds a profound experience for the student. However, students are presently faced with reduced teaching hours, difficulty with dissecting due to acquisition of cadavers/cost factors, and are exposed to inadequately trained anatomists. On this note, teaching human anatomy is undergoing major changes and I would say is slowly being eroded from the medical curriculum which affects progress, knowledge and success of the medical professional.

Reason for Teaching

"Education is the most powerful weapon which you can use to change the world"
- Nelson Mandela

I come from a developing country where society has drawn gender gaps based on socio-cultural/traditional norms. Females have been unrepresented for years and have been provided with inadequate opportunities. I was blessed to have parents who believed that education equaled liberation. It is for this reason, I loved learning and I grew passionate about Anatomy during my undergraduate years. Whilst studying, I aimed to develop less fortunate and or ambitious females, irrespective of their field of interest. I mentored a diverse group of females at both secondary and tertiary institutes and in some way promoted leadership skills in these young woman by involving them in special programs, supported learning opportunities in their communities and surprisingly instilled a passion for basic sciences amongst these young woman. In summary I loved helping others grasp and comprehend material being taught and my call for teaching persisted.

Responsibilities

Table I illustrates my overall academic responsibilities for the Discipline of Clinical Anatomy during my teaching career.

TABLE I: DR MAISTRY OVERALL ACADEMIC RESPONSIBILITIES IN THE DISCIPLINE OF CLINICAL ANATOMY

Course	Position	Nature of Duties
CMED2NG (2 nd year medical students)	Assessment Coordinator	<ul style="list-style-type: none"> • Compile assessment requirements and weightings for each exam and communicate such to relevant contributors and stakeholders viz. basic science foundation • Compile and collate questions for theme and module assessments - theory + practical (OSPE) • Present as an academic/examiner at student exams to answer assessment queries • Manual re-marking of computer scripts for verification purposes • Compile students' results • Make informed changes to style of assessment, for example, introduction of short-answer questions to complement MCQ-based assessment • Supervise administrative assistants in the finalization of theme timetables • Assist students with queries related to the academic program • Assist academic staff with queries related to the academic program • Analyze results to extract list of top achievers and analyze results to extract list of repeating students • Available to students (open door policy) to also help with non academic issues • Assisted with administrative duties/HR queries
CMED2NG (2 nd year medical students) CMED2NG (1 st year medical students)	Problem Based Learning Facilitator	<ul style="list-style-type: none"> • Provide guidance to students for a problem based learning approach
BMEDSCII BMEDSCIII	Demonstrator	<ul style="list-style-type: none"> • Provide guidance and assistance to undergraduate students in their weekly practical's (6 hours per week) covering all components of the human body viz. neuroanatomy, head & neck, upper & lower limbs, trunk, abdomen & embryology • Practical's included questions pertaining to structure and function and clinical cases

Teaching and Learning Approaches

"The one exclusive sign of thorough knowledge is the power of teaching"

- Aristotle

I have incorporated various teaching methods to address the differing learning styles adopted by students'. These include:

- 2.1.1 Problem Based Learning (PBL)
- 2.1.2. Multimedia
- 2.1.3. Schematic Diagrams with summaries
- 2.1.4. Quizzes
- 2.1.5 Flashcards

I have found that new teaching modalities coupled by modern technology heightens' interest for anatomical knowledge- *I strongly favor dissection of human cadavers and also support the new teaching modalities.* Using both traditional and modern techniques the student is engaged, allowing for participation which contributes to retaining anatomical knowledge for effective application in clinical settings.

Scholarly Activities

The assessment of scholarly activity, I believe should mirror discovery, integration, application, and teaching (as set out by Boyer's definition for scholarly assessments). As a result I have incorporated various activities in order to engage my students and to apply their knowledge to future patient assessment. Please find below a brief overview of past and proposed activities viz.

Past

I encourage students to carry out case studies, literature reviews, attend teaching conferences, quality improvement of research, and involvement in various research projects. I further urge students to become involved in patient orientated research, laboratory-based investigations, not forgetting translational research. In each academic year, clinicians at the University of KwaZulu Natal, South Africa implement and or assign research projects to students as per their interests and or career aspirations. I aid the clinicians by reviewing the students' research protocols (due to my involvement at the Biomedical Research Ethics Committee, South Africa). Additionally, in order to facilitate the implementation of these research projects, I make all attempts to assist faculty advisors in finding support for selected research projects through

various funding societies/organisations. I also believe that it is imperative to share medical data in scientific journals and I assist students by reviewing their manuscripts.

Proposed

I anticipate promoting a global health track which can provide students with an opportunity to promote and deliver medical care to low income environments both in Africa and broad. Further, I am hoping to develop the medical educational tract in order to improve the quality of medical education by developing the students passion for academic medicine.

Reviews/Feedback from Students

"The best teacher is very interactive"

- *Bill Gates*

At the end of the module, I kindly requested students to provide feedback on my teaching techniques. I have provided some comments below:

Student 1: Dr. Maistry's techniques and learning approach within the dissection lab is excellent. Her sessions are helpful and she is readily approachable. I am pleased that her teaching styles help me remember difficult sections in anatomy. Overall, Dr. Maistry is an excellent teacher and we are lucky to have her impart her knowledge on us.

Student 2: Dr. Maistry caters to the needs of every student. We all learn differently and she tries to accommodate each and every student by emphasizing and explaining key areas in anatomy. I am also grateful as she cleared up questions we had. I thank Dr. Maistry for her patience.

Student 3: Dr. Maistry went above and beyond to tutor us in anatomy. She incorporated flashcards, quizzes and computer based learning in our sessions, and I found this to be really helpful.

Student 4: Dr. Maistry is an awesome teacher who is prepared for every session. She is able to explain complicated structures. She makes anatomy easy to understand. Dr. Maistry is one of the best tutors that I have ever had.

Student 5: Dr. Maistry is an excellent teacher who always goes the extra mile to accommodate and help her students. She made every attempt to understand the student and their difficulties, and this sets her apart from other lecturers. We felt

confident as we knew exactly what was needed and being taught. Amazing demonstrator.

Concluding Remarks

Thank you for reviewing my teaching portfolio.

I would be most grateful if the faculty could consider my application for employment. I believe that professional development provided by information-rich universities can reinforce and strengthen research and teaching in the field of clinical anatomy in developing countries (like South Africa). If given this opportunity, I can at the end of the tenured appointment impart/transfer knowledge/skills onto the next generation of clinicians/health care professionals in Africa.

I welcome advice or suggestions regarding my application.

Research Statement: Dr. Tanya Maistry

Department of Cardiology, University of KwaZulu Natal, South Africa

Introduction

I recently completed my Post-Doctoral training at the University of KwaZulu Natal, South Africa, with an interest in cardiovascular genetics. Coronary heart disease is caused by the combination of lifestyle factors, from smoking and unhealthy diets to genetic factors. I employ patient orientated research, laboratory-based investigations, develop statistical tools and further analyze epidemiological data to better understand the metabolic risk factors and their genetic patterns in a high risk community. A better understanding of the mechanistic basis underlying the effect of cardiovascular-related genetic studies would facilitate translating genome wide association studies thereby contributing to the development of new preventive and therapeutic measures. The majority of my current research applies to investigating the genetic patterns of candidate gene polymorphisms related to lipid and carbohydrate metabolism, and insulin resistance (IR) in Asian South Africans with the metabolic syndrome (MetS).

This research statement is organized as follows: The first section discusses my work during my PhD, focusing on my dissertation and papers. The second section discusses my work from my postdoctoral fellowship. Both sections include plans for future research in the respective areas.

PhD

Dissertation

My dissertation included a series of experiments conducted in a low income community from KwaZulu Natal, South Africa. The study was designed to (i) identify the prevalence of the MetS in the selected community as determined by the latest descriptors; (ii) determine the prevalence of IR as defined by the HOMA model using serum insulin and fasting glucose levels in subjects with the MetS; (iii) define the pattern of risk factor clustering that is associated with IR (as defined by the HOMA model) and the MetS; (iv) identify genetic patterns of subjects with the MetS focusing on genes related to lipid and carbohydrate metabolism viz. apolipoprotein A5 Q139X; (v) identify genetic patterns of subjects with the MetS focusing on genes related to IR viz. lipoprotein lipase Hinf I, human paraoxonase 1 192Arg/Gln, cholesteryl ester transfer protein Taq1B; and (vi) identify genetic patterns of subjects with the MetS focusing on genes related to obesity viz. adiponectin 45T>G, leptin 25CAG. Detailed laboratory procedures were performed including DNA extraction from whole blood, quantification of DNA, selection and genotyping of candidate gene polymorphisms and quality control of PCR products. Statistical software program SPSS 17.0 for all epidemiological and genetic analysis was utilised.

The knowledge gained from this study contributed to the debate of whether the MetS lies in its component risk factors (which includes environmental factors) rather than the MetS as an entity, with genetics serving as a major contributor to susceptibility (as indicated in previous studies). Since the MetS is a reversible condition, preventative interventions may contribute immensely in averting type 2 diabetes, cardiovascular disease and other clinical complications. In this context we concluded that the adiponectin 45T>G and the human

paraoxonase 1 192Arg/Gln polymorphisms are genetic markers that may assist in identifying participants who are susceptible to hypocholesterolemia (in males with the MetS and with IR) and hypertension (in males with the MetS), respectively. The lipoprotein lipase HinfI and human paraoxonase 1 192Arg/Gln polymorphisms associated with IR may also serve as genetic markers that may assist in identifying males with MetS who are susceptible to hypertension. On the other hand, non-smokers with the lipoprotein lipase HinfI and human paraoxonase 1 192Arg/Gln polymorphisms and non-alcohol consumers with the human paraoxonase 1 192Arg/Gln and leptin 25CAG polymorphisms are protected from developing the MetS. Similarly, IR participants with the adiponectin 45T>G and leptin 25CAG polymorphisms who perform physical activities and who are non-alcohol consumers, respectively, are also protected from developing the MetS. Hence, the genetic risk for the MetS may lie in its components (which includes environmental factors) rather than the MetS as an entity. We proposed that genetic studies on larger sample sizes with advanced laboratory techniques and bioinformatics may produce more meaningful results for future candidate gene studies, allowing for effective interventions that will reduce the prevalence of the MetS and cardiovascular disease.

Publications

Two papers arising from my PhD focuses on the genetics of the MetS conducted in a low income community.

The first paper (in press) deals with candidate gene polymorphisms related to lipid metabolism in Asian Indians living in Durban, South Africa, which determines genetic patterns associated with MetS in Asian Indians. Over the last decade there has been an increased focus on genome-wide scans which identified various chromosomal regions with suggestive linkage to the MetS; and experiments to date has shown varying associations between single nucleotide polymorphism(s) and the MetS. Our sample included 999 South African Indians (mean age: 45.4±13.1), 749 females (mean age: 46.0±12.3) and 250 males (43.4±15.2). All participants consented to genetic screening; and clinical evaluations was conducted at the Lifestyle Centre, Inkosi Albert Luthuli Central Hospital, Durban, South Africa. We diagnosed the MetS in accordance with the harmonized definition using the ethnic specific cutoffs for waist circumference in Asian participants. The laboratory procedure included DNA extraction using the MagNA Pure Instrument and a MagNA Pure LC Total Nucleic Acid Isolation Kit. Further, SNPs relevant to lipid metabolism was selected using the SNP database (dbSNP) at NCBI and was genotyped using polymerase chain reaction (PCR) (probe-specific) on the LightCycler 480 (Roche, South Africa). For quality control/confirmation PCR products were sequenced using the Sanger method by standard techniques. The outcome of our findings revealed that the absolute genetic risk for the MetS is probably small and possibly lies in the component risk factors of the MetS. This revelation suggests that lifestyle factors are the major determinant for MetS in this ethnic group.

The second paper examines the etiology of the MetS by investigating the association of genes related to IR and obesity. Our data included 1428 Asian Indians. We utilized the homeostasis model assessment of insulin resistance (HOMA-IR) to diagnose IR in the sample, with values >2.6. One feature of the results that is particularly interesting is that we showed the adiponectin 45T>G (TT genotype) to be associated with lower HDL-C levels in IR males with the MetS. This clearly warrants further evaluation in larger samples. Our results are supportive of published implications whereby the human paraoxonase 192Arg/Arg genotype elevates paraoxonase 1 activity, elevates HDL-C and prevents LDL from lipid peroxidation.

This study found the 192Arg/Arg genotype to be associated with blood pressure possibly related to enhanced oxidative stress that blunts the antioxidant properties of paraoxonase, leading to endothelial dysfunction and hypertension. We believe our findings resulted due to the effects of environmental risk factors and modification will effect gene expression thereby reducing the risk of cardiovascular disease.

Given that the MetS is a growing epidemic it is imperative to unravel the genetics associated with IR and the MetS so as to elicit approaches for eradication of this complex disorder. Our findings highlight that the genetic risk for IR and the MetS lies in the underlying risk factors.

Future Work

A related paper I am currently working on with my co-authors is based on the same experimental design and looks at gene-lifestyle interaction and the MetS. The above-mentioned paper is a work in progress that I intend to complete within 2 months and submit for publication, leading to further studies. I have access to a large data set and intend on harnessing this research during the next few years of my career for additional studies. Specifically, I intend on conducting advanced experiments in which I will look at how genetics coupled with metabolic risk factors forms the backbone for cardiovascular risk. Approval will be obtained from the Biomedical Research Ethics Committee, South Africa.

Post-Doctoral/ Current

I am evaluating apolipoprotein A5 polymorphisms as potential genetic determinants for the MetS in a high risk Asian Indian community. Previous studies have shown an association between gene polymorphisms in the promoter region of the apolipoprotein A5 locus with elevated triglycerides levels and the MetS. Apolipoprotein A5 polymorphisms therefore appear to play a role in gene transcription and apolipoprotein A5 levels and identifying the genetic variants may allow for the predisposition of cardiovascular disease in the studied cohort.

In summary, at this point in my career, my primary interests are applied to the field of genetics and the MetS. I have pursued these interests to date by conducting field and laboratory experiments. In the immediate future I would like to go further with advanced laboratory experiments in the field of cardiovascular genetics. Long term I envision working on expanding my expertise in these areas.