

## **Cape Town, South Africa**

### **Local Organizers:**

Prof. **Tandi Matsha** Designation : Professor, Faculty of Health and Wellness Sciences, Department of Biomedical Sciences Bellville Campus, Cape Peninsula University of Technology, Cape Town, South Africa

Professor **Rajiv T Erasmus** MBBS;FMC.Path(Nig), FWACP(W.Africa); DABCC (Am Board Certified);DHSM(Natal);FCPath(S.A)

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President, South African Association for Clinical Biochemistry (SAACB)

Vice President, College of East, Central and Southern Africa (COPECSA)

Secretary, Federation of South African Society for Pathology (FSASP)

### **Venue and dates:**

**Tygerberg Hospital,**

**Cape Town, South Africa**

**22 July- 27th July 2013**



### **Participants list**

**Trainee:** Yandiswa Yolanda Yako

**Present position:** Postdoctoral fellow

**email:** [yyako19@gmail.com](mailto:yyako19@gmail.com)

**Junior Member:** Madleen Hoffman

**Present position:** Biomedical Technologist/ NHLS Tygerberg Hospital,  
Cape Town, South Africa

**email:** Madelein Hoffman <Madelein.Hoffman@nhls.ac.za

### C-CMBC South Africa Course participants List

#	Name	Background/ Position	Email
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13	Hoffman Madelein	Biomedical Technologist/ NHLS TBH	<a href="mailto:Madelein.Hoffman@nhls.ac.za">Madelein.Hoffman@nhls.ac.za</a>
2	Lewechi Isaac	PhD student Chemical Pathology	<a href="mailto:lewechiuke@yahoo.com">lewechiuke@yahoo.com</a>
4	Macharia Macharia	PhD student / CPUT TBH	<a href="mailto:mmacharia@sun.ac.za">mmacharia@sun.ac.za</a>
3	Martins Janine	Chemistry Engineer/ University of Pretoria	<a href="mailto:janine.martins@nhls.ac.za">janine.martins@nhls.ac.za</a>
7	Mouton Thys	Histology Lecturer/ CPUT Bellville	<a href="mailto:MoutonT@cput.ac.za">MoutonT@cput.ac.za</a>
1	Onyenekwu Chinelo	Dr Medicine/ Chem Path, Nigeria	<a href="mailto:chinelo2k@yahoo.com">chinelo2k@yahoo.com</a>
8	Pantsi Wonga	CPUT Bellville	<a href="mailto:PantsiW@cput.ac.za">PantsiW@cput.ac.za</a>
9	Prince Yvonne	Biomedical Technologist/ CPUT Bellville	<a href="mailto:PrinceY@cput.ac.za">PrinceY@cput.ac.za</a>
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5	Sogwagwa Nkosikho	Medical Technologist / CPUT Bellville	<a href="mailto:SogwagwaN@cput.ac.za">SogwagwaN@cput.ac.za</a>
10	Vergotine Zelda	Ms Physiology / CPUT Bellville	<a href="mailto:vergotinez@cput.ac.za">vergotinez@cput.ac.za</a>
6	Wantenaar Tanya	Anatomical Pathology / TBH	<a href="mailto:drtanya@polka.co.za">drtanya@polka.co.za</a>
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# C-CMBC COURSE FEED BACK FROM PARTICIPANTS

## 2013 Cape Town, South Africa

### 1. Why were you interested in this theoretical and practical course?

**Janine Martins ([janine.martins@nhls.ac.za](mailto:janine.martins@nhls.ac.za)):** I am writing College Finals in 2014 and would like to increase skill and knowledge toward this exam. I also have an interest in genetics/mol path and feel a certificated training in this area would help in my career development.

**Chinelo Onyenekwu ([chinelo2k@yahoo.com](mailto:chinelo2k@yahoo.com)):** I am attending it because I wish to have a theoretical and practical understanding of Molecular diagnostics.

**Isaac Lewechi ([lewechiuke@yahoo.com](mailto:lewechiuke@yahoo.com)):** Thank you for the opportunity granted me by your questions to highlight my expectations. I am attending this course with the hope that it will help me immensely in my PhD research. I am currently a PhD student of the department of Chemical Pathology, University of Ibadan, Nigeria. Isaac

**Tanya Wantenaar ([drtanya@polka.co.za](mailto:drtanya@polka.co.za) / [tanya.wantenaar@nhls.ac.za](mailto:tanya.wantenaar@nhls.ac.za)):** I have a keen interest in molecular pathology and it also comes up in every diagnostic work. So I would like to broaden my knowledge about the applications and techniques and familiarize myself with terminology as well as interpretation of tests and its clinical relevance.

**Nkosikho Sogwagwa ([SogwagwaN@cput.ac.za](mailto:SogwagwaN@cput.ac.za)):** I am currently a junior Lecturer, I enrolled for the course because I want to incorporate molecular biology in my teaching so I thought the course would enhance my knowledge in this discipline.

**Thys Mouton ([MoutonT@cput.ac.za](mailto:MoutonT@cput.ac.za)):** I do not have any formal training in a Molecular Biology, so I wanted to attend to gain some background in theory and practicals.

**Wanga Pansi ([PantsiW@cput.ac.za](mailto:PantsiW@cput.ac.za)):** I wanted to learn about molecular field

**Yvonne Prince ([PrinceY@cput.ac.za](mailto:PrinceY@cput.ac.za)):** I attended the course because molecular biology is becoming part of routine work in Medical Microbiology and I needed To attend the course to see and help me understand what is happening in the rest of the world.

**Mr. Macharia ([mmacharia@sun.ac.za](mailto:mmacharia@sun.ac.za)):** To gain further insight in field of molecular biology especially as related to diagnostics.

**Zelda Vergotinez ([vergotinez@cput.ac.za](mailto:vergotinez@cput.ac.za)):** I would like to strength my basic knowledge regarding molecular biology as I havent had the opportunity to attend a formal structured course.

**2. Which is your professional training and where are you working now?**

**Janine Martins:** Specialising in Chemistry Path at the University of Pretoria/NHLS-TAD

**Chinelo Onyenekwu:** I studied Medicine. I am in my third year of residency training in Chemical Pathology at the Lagos University Teaching Hospital, Lagos, Nigeria. Presently, I am doing a six-month clinical attachment at the Chemical Pathology Department, Stellenbosch University, Tygerberg Hospital, Cape Town, South Africa.

**Isaac Lewechi:** I studied Biochemistry for my first degree ( i.e. I have a BSc in Biochemistry). I also studied Medical Laboratory Science with specialty in Clinical Chemistry. The diploma awarded for this is an associate degree ( i.e. AIMLS in Chemical Pathology). I did my Masters ( MSc ) in chemical pathology/clinical chemistry in university of Ibadan. At present I work as Medical Laboratory Services Officer in an International Agric Research Institute (International Institute of Tropical Agriculture ), whose headquarters is based in Ibadan, Nigeria.

**Tanya Wantenaar:** I am a final year anatomical pathology resident and I work for NHLS.

**Nkosikho Sogwagwa:** I am a medical technologist and currently I am working at Cape Peninsula University of Technology as a junior lecturer.

**Thys Mouton:** Clinical Chemistry. Working at Cape Peninsula University of Technology, Bellville, South Africa

**Wanga Pansi :** I am currently working at CPUT, Cape Town as histology lecturer

**Yvonne Prince:** I studied Biomedical technology at Peninsula technicon. And I am currently a new lecturer teaching Microbiology.

**Mr. Macharia:** I am still involved in studies having registered as a PhD student at Stellenbosch University/Tygerberg hospital where I also work as a Technical assistant. Mma

**Zelda Vergotinez :** I have a Masters in Physiology and a lecturer at the Cape Peninsula University of Technology lecturing Anatomy and Physiology.

**3. Have you ever heard about molecular biology techniques applied to diagnosis before the course? Where did you hear about them?**

**Janine Martins:** During training at University of Pretoria

**Chinelo Onyenekwu:** Yes, I have heard about the application of Molecular Biology techniques to diagnosis. At different times during the course of my residency training in Chemical Pathology, both in Nigeria and in South Africa.

**Isaac Lewechi:** I have heard and read about molecular biology techniques applied to diagnosis. However I have not really appreciated the practical application and diagnostic scope of these techniques. Though I have read with understanding its application in gene deletion studies in certain abnormal spermatogenesis (dyspermia) in male infertility.

**Tanya Wantenaar:** Yes, everywhere in my professional environment. Read journal articles, it's part of the day to day work especially in breast cancer in our setting as well as in lymphoma and sarcoma diagnostics.

**Nkosikho Sogwagwa:** Yes I have heard about this and I did Molecular biology course as part of my undergrad studies.

**Thys Mouton:** Yes, On internet, in brochures, journals.

**Wanga Pansi:** No everything was new to me so the course was an eye-opener for me

**Yvonne Prince:** Every where

**Mr. Macharia:** Yes I have heard about them in my reading, in our academic meetings and in our diagnostic pathology facility which is however not open to students.

**Zelda Vergotinez:** Didn't answer this question.

4. **What is your personal hand-on experience in Molecular Biology? Have you ever applied molecular biology techniques such as PCR before the course? If so, which technique/s have you applied, and what have you done with them?**

**Janine Martins:** Yes, PCR – training session with our scientist

**Chinelo Onyenekwu:** I have never applied any Molecular Diagnostics techniques.

**Isaac Lewechi:** I have never applied molecular biology techniques. However I have read extensively about molecular biology and its techniques especially during my undergraduate study in Biochemistry. But the opportunity to practise and apply the techniques have not been there.

**Tanya Wantenaar :** I have not applied the techniques personally but we frequently request these tests and include the results as part of our pathology report.

**Nkosikho Sogwagwa :** I had a six months training during which I did PCR and gel electrophoresis.

**Thys Mouton:** No hands-on experience before the course.

**Wanga Pansi:** No i did not have any experience prior to the training I had

**Yvonne Prince:** Yes, Used PCR during my masters degree when I studied TB.

**Mr. Macharia :** Yes, I have extracted genomic DNA, done conventional (Taqman) PCR, electrophoresed the products and viewed on GELDOC as I genotyped 2 SNPs that I am currently working on.

**Zelda Vergotinez:** I'm currently a PhD student in the department of chemical pathology and the research project includes molecular biology techniques PCR and RTPCR.

### **5) What were your expectations from this course? What did you expect to learn?**

**Janine Martins:** Practical skills for applying molecular pathology techniques and to obtain theoretical framework (lectures) on how to apply to diagnostics. More information about how the techniques work and for what purpose they are used.

**Chinelo Onyenekwu:** I am hoping this course will equip me with a sound understanding of the principles of molecular diagnostics; and also give me a hands-on training in the practical applications of molecular biology techniques, including the interpretation and application of the results from these techniques; particularly, as may be relevant to my discipline.

**Isaac Lewechi:** My Expectations For the Course I have a high expectation for the course.

- I expect to learn extraction of DNA from various/different sources ( e.g animal (human), microorganisms, plants etc.)
- The underlying principles of DNA extraction.
- The different methods of DNA extraction
- DNA purification/Isolation from RNAs
- DNA quantification
- Polymerase Chain Reaction ( PCR )
- Principle of PCR and factors that affect PCR output e.g primers, enzymes, buffers, interferences, and how to get it right
- The different types of PCR e.g Real-time PCR etc.
- Agarose gel electrophoresis of PCR products.
- Sequencing and fragment analysis
- Basics of Bioinformatics and its relevance to molecular biology
- Different molecular diagnostic methods/techniques, where, when and how they are applied.

**Tanya Wantenaar:** To familiarize myself with the techniques, to become more aware and knowledgeable about the molecular “language” and terminology. To learn which techniques are appropriate for which tests and to revise for upcoming exams. Also to get some idea of how these tests are interpreted as we work in a setting where we just get the results and need to interpret it to incorporate it sensible into the pathology report.

**Nkosikho Sogwagwa:** I expected to learn about designing primers, restriction enzyme digestion, PCR, western and northern blotting techniques.

**Thys Mouton :**An introduction to Molecular Biology Techniques in theory and practicals.

**Wanga Pansi:** I learn a lot hey it was more informing and very intense than I expected

**Yvonne Prince:** Give me basic about molecular

**Mr. Macharia:** To gain further theory and future direction in the field and to gain practical experience of RFLP.

**Zelda Vergotinez:** I would like to strengthen my basic theory, laboratory techniques as well as application of molecular techniques.

- 6) **Did the course fulfill your expectations or not? ¿Do you think that it was useful or not? We would appreciate any suggestion you could give to us in order to improve our theoretical and practical teaching.**

**Janine Martins:** Yes, the course more than exceeded my expectations. I found it to be a very useful and well-structured course. Most of my suggestions I provided in the feedback form, but it was excellent. Will there be a follow-up/advanced course?

**Chinelo Onyenekwu:** Yes, the course gave me more than I expected, it was very useful. I hope to build on the information and training I gathered from it. I have also made suggestions and comments on the evaluation forms handed out during the course.

**Isaac Lewechi:** The Beginner's course in Molecular Diagnostics was wonderful. It did fulfill my expectation. First we had wonderful set of teachers. The course aroused my curiosity and deep interest both study more, learn more on my own (using as foundation, the thing we were taught) to have better grasp of molecular diagnostics. Second it helped me to appreciate the functions the various constituents of the reagents are performing. And that by adjusting one constituent or the other one can optimize lets say the PCR performance.

Three it helped me set agenda on which direction to go in my carrier pursuit/development, and research by helping me to see what is possible. Four it has also given me a future preparedness of the direction of technology for the future in this field. This is important to me as those of us in the developing world are left behind in scientific advancements. Five as touching my present PhD work, I now have a better outline on what to do and a further future thrust on my same line of research and interest Six I am particular happy that I got this privilege of being taught this course by some of the best and experts in this field in the world. And look forward to learning more from them as I go on in my carrier.

**Tanya Wantenaar:** In some of the practical laboratory work we did, we did not get results and it was difficult to locate precisely where the problem came from. Apparently student/course participants were grouped such that different groups prepared a or some specific reagent that was used by the entire participants. If any group was less thorough or

careful with reagent preparation this will affect all the work. This important stage of reagent preparation should be more homogenous. I suggest also that this type of course be brought close to young and up-coming scientist in West African countries who will benefit immensely by knowing what is possible in this very exciting field of molecular biology in basic medical and clinical sciences. In summary, it was a wonderful and fulfilling learning experience for me which I am going to explore further for a fuller grasp of the subject matter. I hope I have been able to share my candid appraisal of the course. Unfortunately I fell ill during the course and could not complete it as I was hospitalized. The part that I did attend was very good.

**Nkosikho Sogwagwa:** Yes it has fulfilled my expectations on what was covered and for me the course was useful as I gained a lot from it. I felt that the time was not enough for the load of work which was covered.

**Thys Mouton:** Yes it fulfilled my expectations and beyond.

**Wanga Pansi:** It was helpful....in future it would be great to get learning material before the course/training commencement.

**Yvonne Prince:** Yes the course did much more, it was very useful now I understand much more.

**Mr. Macharia:** Only 1 suggestion: An hour or 2 session of good lab practice would really benefit participants who are not from a lab background. As a lab based person very keen on GLP, I was disappointed, to say the least, at the way many of us "abused" the lab.

**Zelda Vergotinez:** The course was excellent and wasnt not only on basic. I've definitely benefited from the course. The presenters of the course were all experts in their field of interest which added a lot more to the course than was expected.



**Beginner s Course in Molecular Diagnostics  
Committee-Clinical Molecular Biology Curriculum  
(C-CMBC-IFCC)**

**Cape Town, South Africa  
22 July- 27th July 2013**

**SELECTED PHOTOS**

























