

# **Report on King's College Hospital Visit**

**To:**

**The Society for Radiological Protection, UK  
76 Portland Place  
London W1B 1NT**

**From:**

**T.C. Senganimalunje  
University of Malawi  
Physics Department, P.O. Box 280  
Zomba, MALAWI**

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## **Introduction**

The Society for Radiological Protection (SRP-UK) funded a month visit for me to be attached to Department of Medical Engineering and Physics, Radiation Protection Section of Kings College Hospital, London. The general aim was for me to obtain practical and analytical skills in carrying out Quality Assurance (QA) and/or Quality Control (QC) procedures on medical diagnostic equipment with emphasis on general radiography.

I proposed the visit after I realised a skills gap to carry out duties of a medical physicist in radiation protection after my training in the UK (Leeds University). The skills gap is there because of the way the way the medical physicists training scheme is run in the UK – a one-year taught masters with two years practical on the job placements. This obviously cannot be done for international students of which I was one.

The visit was from 29<sup>th</sup> January 2007 to 2<sup>nd</sup> March 2007.

## **Activities Carried Out**

- **Welcome**

An honorary contract from the Human Resources Department was signed. The department conducted an induction that included staff introductions, safety procedures, going through local rules and a tour of the MEP department.

During the tour I was shown the different equipment sets used in radiation output measurements. A detailed explanation of equipment needs in different situations and/or equipment was also given

- **QA/QC Visits**

Throughout my stay, I went along to QA visits with the radiation protection physicists of the MEP department. My focus was on general radiography although the visits included visits to II equipment, Orthopaedic Units and one visit to a CT scanner.

In the early days my role was that of an observer asking questions where need be. Towards the end, I took more active roles including data input, equipment set-up and testing (one time I was even involved in the report writing).

- **Access to Literature, Software and Data**

Institute for Physicists and Medical Engineers (IPEM) reports, National Radiation Protection Board (NRPB) publications and other relevant literature were made available. This extensive and rich form source of information will form part of a research concept note that I am developing to present to the National Research Council of Malawi.

I was introduced to two important dose-estimation software; PCXMC for general radiography, and ImPACT for CT. These instruments are important in dose calculation if the radiation output from particular x-ray sets is known.

- **Nuclear Medicine Department Visit**

I spent my last couple of days in the Nuclear Medicine Department of Kings College Hospital where I had a brief overview of their activities. It was a rich experience where the most important lesson I learned was that one does not need expensive equipment to do some nuclear medicine procedures.

### **Concluding Remarks**

The visit has been very useful in that it has exposed to the practical dimension of radiation protection. With good support (team work, understanding clinical personnel, legislation and local rules etc) equipment and literature, seemingly complex work can be done with relative ease.

Further, KCARE is housed in the same building as radiation protection and from these I have gained a fair knowledge of the equipment types (sets) that are available on the market for different application. This knowledge will be invaluable in future equipment acquisitions for both research and clinical purposes.

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### **Future Plans**

My immediate term plans are to conduct research in radiation protection. This will be in the form of 'academic' research aimed at publishing results that will/should attract attention. (The National Research Council of Malawi organises research dissemination workshops annually in the capital city). The chosen approach is best for our local circumstances in which we do not have a formal radiation protection services.

At the national university, I feel I am rightly placed to encourage students to take this and related career paths with a view of forming a professional body in the near future to further advocate for our interests.

Professionally, I would like to pursue PhD studies in radiation protection to be part of the many people that tackle fundamental questions in this complex and multi-disciplinary subject area.