OUM ESTABLISHES A NEW MULTI-DISCIPLINARY LABORATORY IN 2010

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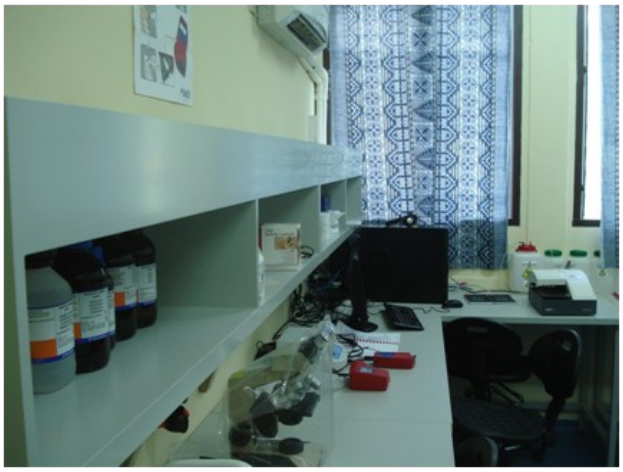
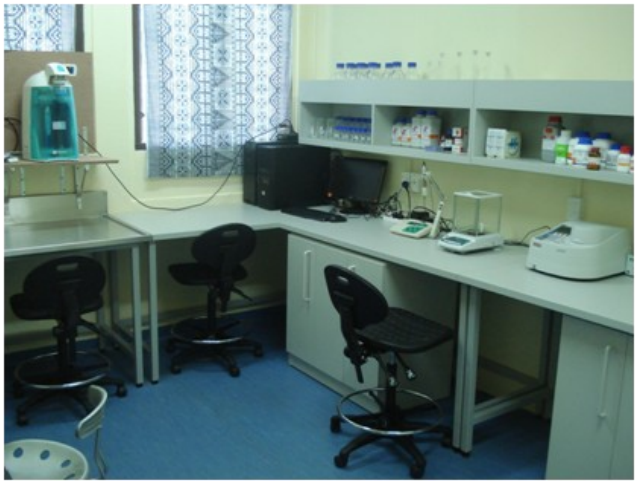
This November, OUM formally opened a new multi-disciplinary laboratory (MDL) at its Apia campus. The function of the MDL is to serve as a basis for teaching, conducting research, and performing selected high-quality clinical laboratory tests.

The establishment of this laboratory was largely driven by the recommendations of the Philippines Accrediting Agency for Schools, Colleges and Universities (PAASCU) that visited Samoa last year. After a long and unsuccessful search of space for laboratory facilities outside the campus, the Vice Chancellor, Professor Surindar Cheema, advised that OUM should start small by re-furbishing two adjacent rooms next to one of the computer labs for MDL. It was not an easy task to raise funds for such a totally innovative project – the MDL had to be developed from scratch - but, nonetheless, the signal to go ahead was given in April 2010. World-class laboratory furniture, fixtures and fittings were ordered and tailor-made in Australia according to the MDL layout as it was obvious that a proper "housing" was needed to meet the performance requirement of highly sensitive modern analytical equipment.



The MDL had to start small indeed; however, the equipment that was purchased from Australia and New Zealand excellently answers the purposes of high quality laboratory assays. As to teaching, all undergraduate medical students can now be taught the basics of preparing solutions and buffers, performing the calibration of measuring devices, and doing spectrophotometry. Selected rapid diagnostic tests and the basics of internal laboratory quality control can be run as practical classes for the Introduction To Medicine module and mini-research projects in the postgraduate 4yr medical program.



A full line of instruments required for enzyme immunoassays have been purchased from Tecan (Austria). Now, the MDL is able to do assays for almost every analyte that can be measured in an enzyme immunoassay format. The equipment can process tests for hormones (T3, T4, TSH and others), tumor markers, inflammatory markers, and many other substances that are present in biological fluids in micro- and nano-levels. Specific reagents for such tests will be available to fit particular inter-institutional research projects.

The first such project to be launched is an expanded screening of Samoan men over 45 years old for prostate-specific antigen (PSA), an early marker for prostate tumors. OUM will arrange screening for PSA using rapid immunochromatography) tests first, and positive blood samples will be then tested quantitatively at MDL. "PSA-positive" men will be subsequently examined by a visiting urologist from Auckland, and for each high-risk person a quantitative PSA test result will be provided. The initial screen will target 5000 men in the Apia region.

Another research initiative that involves the MDL is the use of hematological cytochemistry in both community screening and clinical research studies. This technology can detect many imbalances in white blood cell functions (like myeloperoxidase and lysosomal cathionic proteins deficiency), which may open the way to therapeutic interventions into secondary immune deficiencies, in particular, in rheumatic heart disease. At the same time, such tests will spread light on the mecha-

nisms of inflammation in rheumatic heart disease patients.
The MDL has been equipped with three high-quality point-of-care blood analyzers manufactured by HemoCue (Sweden), namely, a hemoglobin meter, glucose analyzer, and total white blood cell counter. Albeit portable, those instruments have the same performance characteristics as big stationary hospital analyzers. Those have already been used in the Rotary 5000 community screening; besides that, the analyzers will be used for teaching our medical students and for reference assays of selected samples that would be forwarded by specialists from the TTM general hospital in Apia.

Besides new fascinating perspectives for the MDL as a basis for clinical chemistry research at OUM, the next step is to make this laboratory a registered participant in international quality assessment schemes for particular diagnostic tests. We hope that Labquality, an international organizer of

external quality surveys that is located in Finland but has been operating for almost 40 years helping 4200 laboratories in 40 countries, will be able to provide its services to MDL.