



# Inquest ends

**The Coronial Inquest into our five missing researchers, who went missing two-years ago in West New Britain is completed, but without any real conclusive findings.**

The Inquest Report was release in May this year and suggested for a new investigation to be carried out should fresh real evidence surfaces.

The Report concluded two likely-scenarios to best explain the incident's mystery – bad weather and or foul play although bad weather was later ruled out following overwhelming evidence of foul play (sea piracy).

As such the report strongly recommended that the case be referred to the Police and Justice Departments for further investigations, as the case maybe of criminal nature.

Lack of hard evidence was the main impediment to the inquiry's investigations. This was mainly attributed to the investigation team's "difficulties in summoning witnesses who held vital information to what happened to the missing persons because their whereabouts could not be identified," said Coroner Lawrence Kangwai, ML in the report.

The inquest into the missing researchers and the boat crew commenced on 12 January this year in Kimbe, West New Britain Province.

It was also extended to Wewak, Manus and Port Moresby.

This inquest was sanctioned by the Prime Minister Peter O'Neill, after the Police in WNB had to halt its own investigations due to lack to funding in 2012.

The information gathered during the inquest consisted of police investigations, exhibits, affidavits, pictures and witnesses statements which were examined then re-

examined in Kimbe, Wewak, Manus and in Port Moresby.

Coroner, Kangwia ML stated that the end of the Inquest was a form of closure for the relatives and those closely associated with the missing persons.

It has been over two years since the five IMR researchers disappeared mysteriously off the coast of Kimbe in the West New Britain Province while on duty travel.

The five researchers include Gibson Gideon, the Team Leader; Tania Oakiva, Graduate Scientific Officer; Lydia Petrus and Leonard Vavana, Research Nurses; and George Dogoya, Research Assistant. Among them were three other people, two of whom were boat crew members. In total, eight people went missing on that fateful day - Monday 1 August 2011.

Of the recommendations suggested by the Inquiry, the main being for the Police Force hierarchy to immediately set up a new independent investigation and that this investigation to be headed by Police from outside of WNB.

This is so that they pursue the follow-ups from the Inquest on the leads and suspects name so that appropriate actions be given. PNG Institute of Medical Research has been following this Inquest very closely.

Despite the Inquest ending without real conclusive findings, the management of IMR are grateful for all the collective efforts and involvement of various government agency into the Inquest and as well as the families of our missing colleagues.

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## Insert: Barne's Story

Barne Willie tells his story about his experience studying in the US. Barne is a Senior Scientific Officer with our HIV/STI. Laboratory. He recently graduated with a Master's in Biology at the Case Western Researve University.

All information about the 2014 Medical Symosium can be found by following this link [www.pngimr.org.pg/symposium2014/index.html](http://www.pngimr.org.pg/symposium2014/index.html)

### Our five researchers still missing.



# Director's Message

Hello everyone!

Welcome to the 46<sup>th</sup> Issue of the IMR Newsletter.

## 2014 Medical Symposium

We have reached the middle of the year 2014 and we will soon celebrate the Golden Jubilee of the Medical Symposium in September.

The PNG Institute of Medical Research is co-hosting this year's Medical Symposium with the Eastern Highlands Provincial Health Authority.

As a co-host, IMR is currently in full swing in its fundraising drive to raise funds towards this event.

Our scientists and researchers are also preparing for their presentations as well. All abstracts from IMR presenters, mostly young upcoming researchers have been sent to the Symposium's Abstract Committee for screening.

We are looking forward to presenting a vibrant number of papers during the symposium on various interesting health topics including pneumonia, cervical cancer, TB, meningitis, malaria, non-communicable diseases among others.

## Research Projects

On our research front, this year will see most of our major research projects coming to completion. These include the Malaria Control Project and Partnership in Health Project (PiHP). Although our Pneumococcal Conjugate Vaccine (PCV) study is winding down, it still has two years of follow-up to complete. Recruitment for this study has concluded.

These studies and projects have no doubt archived their goals and have produced overwhelming results that have and will contribute immensely to our understanding of health issues in PNG and also in the improvement of health in PNG.

The five year PCV study has led to policy change which saw the introduction of the PCV vaccine into the National Immunization Program. Results from the Malaria Control Project have proven that malaria diagnosis and treatment has declined in PNG due to the free distribution of treated mosquito nets. This information is essential in the planning of the National Malaria Control Program in the years to come. PiHP has not only assisted PNG LNG project with up-to-date information about health patterns and trends in its project-impacted communities but also revealed an insight into the changing life style of Papua New Guineans with the rapid developments taking place in the country.



Professor Peter Siba

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**"We are looking forward to present vibrant number of papers during the symposium on various interesting health topics..."**

The project's latest report in March is currently on our website, should you be interested to read more about its findings.

These projects are also the Institute's biggest employer, but with them coming to a close, the Institute's Human Resource Unit and Project Managers are working together to ensure a smooth transition for staff.

PNGIMR is also grateful to the funders, collaborators, partners, the participants and their communities; and the hard working staff in each of these projects, who have contributed towards the overwhelming success of these studies.

## Inquest into missing researchers

The Inquest into our five IMR scientists who went missing while on duty off the coast of West New Britain Province two years ago has come to a close without any conclusive findings. The Inquest Report has strongly recommended that the case be referred to the Police and Justice Departments for further investigations, as the case may be of criminal nature. It has indeed been a long road for all involved including families, friends and colleagues of the missing five. The management of IMR is happy with the inquiry and are very grateful to the various state agencies, partners and supporters for all their efforts in contributing towards trying to unearth the true story behind our missing friends.

This is our second Newsletter for this year, and it is packed with more interesting news stories about what has been happening at IMR.

You can also visit our website [www.pngimr.org.pg](http://www.pngimr.org.pg) to read more about our exciting work.

Thank you and enjoy your reading!

Peter Siba  
 Director

## SYMPOSIUM UPDATES *from the Committee*

- Committee has been set up with Prof Peter Siba as Chairman and Dr Francis Wandu as his Deputy.
- Symposium will be organised jointly by IMR and EHPHA, with Hon. Governor Madame Julie Soso as patron.
- Abstracts for the symposium are due by 30th June 2014. Registration is K450, K400 early registration.
- We expect 600 people to attend; therefore venue is the Mark Solon Auditorium at the University of Goroka.
- Program will begin on Sunday 31st August with registration, reception and welcome speeches.
- Currently Organising committee needs ~K500,000.00 to host the symposium and fundraising has begun in earnest.
- Dignitaries to be invited include PM, Health Minister, most senior doctors who have contributed to improving health.
- The Symposium Website has been established both by IMR [[www.pngimr.org.pg/symposium2014/index.html](http://www.pngimr.org.pg/symposium2014/index.html)] and Medical Society [[www.mspng.org.pg](http://www.mspng.org.pg)]; any updates can be accessed through them.

# TB awareness still lacks in communities



Partnership in Health Reporters conducting the second Demographic Surveillance System Census Update in Kinim Village, Karkar Island.

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## Many Papua New Guineans still lack knowledge of the causes of TB including significant misunderstandings about its mode of transmission and treatment.

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By Geraldine Vilakiva

This is according to the *Tuberculosis Knowledge, Attitude and Practise (KAP) and Tuberculosis Survey* findings which were highlighted in the Institute's Partnership in Health Project (PiHP) report for March this year.

The seven-month TB KAP survey is a sub-study under the PiHP and was conducted in Hiri West, Karkar Island and Asaro in March 2013.

The survey was aimed at evaluating what level of knowledge people have regarding TB and in doing so, provide evidence for developing interventions to improve the prevention, care, treatment and management of TB in the community.

"Understanding household-level health knowledge, attitudes and practices are essential for effective TB control in PNG," it stated. This supports the widely commended approaches of equipping the population with vital TB information and providing free access to TB treatment.

Of the 1034 study population who participated in this survey, it found that participants from Hiri had more knowledge and understanding on the cause of TB and its transmission than those from Asaro and Karkar.

This was attained to the higher level of education in Hiri.

It also found that approximately 30-40 per cent of the respondents in all three sites did not know how long TB treatment could last for and majority of the population study did not believe in BCG vaccination that could help to prevent TB.

"As the participants found that even though many were vaccinated with BCG, these people were later still sick with TB."

"Less than half of all participants had knowledge about risk facts for TB infection such as living in crowded house, and very few

know about HIV infection as an important cofactor for contracting TB."

The survey also found that misperceptions were common across the three study sites.

These include attributions relating to smoking and drinking, the belief that TB could be transmitted through sharing of food and utensils, skin contact with secretions from TB patients and sorcery.

Although many believed that TB was a severe illness and could kill patients and was easily spread, stigma and discrimination against TB patients and their family were common in these communities.

The survey also found that health centres continued to be the main source for the dissemination of TB health education message in all three study sites.

Around one third of participants learned about tuberculosis from health workers while the other common sources were through family members and friends and school curriculum.

This school curriculum on TB was mainly found in Hiri West.

This shows that it is a potential source for TB education and should be adopted in schools nationwide.

Only a small number of respondents mentioned TB awareness through NGO groups, radio and IEC materials.

This survey's findings and recommendations can be found in the Partnership in Health March 2014 Report.

This report is available for public consumption at our website. Follow this link <http://www.pngimr.org.pg/research%20publications/PiH%20Report.pdf>

# New Staff

## Dr Constanza Otero



**Position:** Head of HIV/ STI Laboratory  
**Research Unit:** Sexual and Reproductive Health Unit (SRHU)

**Speciality:** Biological Science

### Education Background

Constanza is from Argentina and acquired her PostDoctoral degree in 2013 at the University of Buenos Aires, Argentina. Her PhD research was about '*Immune response to Streptococcus pneumoniae in patients with asthma and patients with specific polysaccharide antibody deficiency*'.

Her specialty is mostly centred around Respiratory Infections, Immunology and Immuno deficiencies particularly Asthma.

Prior to coming to PNG, Constanza worked for the Academia Nacional de Medicina Institute where she was based in their Immune response to human infections laboratory.

### Immediate Plans

Dr Otero is also a new member of IMR, after joining the Institute three months ago.

She says her interest is in Immunology and hopes to use her interests and as well her experiences and skills in Immunology to further develop the HIV/STI Laboratory.

"I have a background in Clinical Research and Immunology that is why, in the long run, I would love to study not only the occurrence of Sexually Transmitted Infections, but also how they impact on several aspects of the patient's immune system. This would be really valuable to complement diagnosis, help decide on different treatments and asses their outcome".

Dr Otero is determined to conduct research in order to give a better diagnosis to her patients. Although it will be a slow process, she is determined to improve the Sexual and Reproductive Health Laboratory during her time here.

## Dr Amanda Lang



**Position:** Head of Emerging Viral Diseases  
**Research Unit:** Environmental and Emerging Disease (EEDU)

**Speciality:** Molecular Biology

### Education Background

Dr Lang is from Canada and she completed her under graduate Degree in Microbiology and also her PhD at the University of Saskatchewan in Canada. Her PhD project was on *Salmonella*. *Salmonella* is the bacteria that caused diarrhoea, fever, and abdominal cramps in humans. Amanda later completed post-doctoral fellowship in Halifax in Eastern Canada (Nova Scotia) at the Canadian Centre for Vaccinology. Her research was based on pneumococcal pneumonia and Influenza.

This is her second post-doctoral position, and first time working overseas.

At IMR, Amanda will be heading the Emerging Viral Diseases section, one of the three sections under EEDU.

### Immediate Plans

At just after three months in PNG and at IMR, Amanda is already working towards establishing the section and its research activities. Whilst assessing what needs to be done in her section, one of her immediate plans for the new section is to fast track the transition so her section can take over projects relating to emerging viral diseases such as the avian influenza surveillance study and the homogeneous fever study. She is also optimistic that her section will start surveying rat samples in the labs – samples that were collected by Dr Yazid's team. Despite having a small team of just two staff, she hopes to expand the team once she finds her feet at IMR.

One of her study focus during her term at the Institute and the Unit is to investigate the Hantavirus which causes Hantavirus pulmonary syndrome (HPS) and hemorrhagic fever with renal syndrome (HFRS); a rare but deadly viral infection...HFRS is widespread in Indonesia but could easily spread to Papua New Guinea. This virus is carried by mice and rats and they shed the virus in their urine, droppings and saliva. Tiny droplets with the virus can enter the air. People can get the disease if they breathe infected air or come into contact with rodents or their urine or droppings.

# Epidemiology training upscales staff skills



Scientific Officers who took part in the Epidemiology workshop with facilitator Jessica Atwell at IMR Madang.

Scientific Officers from the Vector Borne Diseases Unit in Madang now have an invaluable and enhanced knowledge in epidemiology following a six-week epidemiology workshop.

Epidemiology is the study of the causes, distribution and control of disease in human populations.

The workshop was conducted by Jessica Atwell, a PhD candidate in the Global Disease Epidemiology and Control Program at John Hopkins Bloomberg School of Public Health in the USA.

Jessica has been based at our Madang branch for the past four months and has been working with the Fetal Immunity Study team.

The hour and a half workshop sessions

were held every Tuesday afternoon for six weeks and involved discussions and group work, which enabled sharing of ideas and the development of a very practical understanding of many, often difficult to understand, epidemiological concepts.

"The workshop was very helpful in terms of understanding epidemiology and the different research studies that are currently being conducted," said Bernadine Kasian, one of the participating Scientific Officers.

Bernadine added that the workshop now enabled them to understand data better.

Jessica also agreed that conducting the workshop was a booster for the participants who already had strong

foundations in biology, chemistry and immunology but lacked exposure to epidemiology.

She also conducted one-on-one data analysis sessions with students, training and mentoring the participants on data analysis using Stata software.

With her past teaching experience, Jessica hoped the workshop will improve the participants understanding of epidemiology and how each of their respective work contributes to the work of IMR and its collaborators as a whole.

She also hoped the workshop will build their skills in taking on more analysis of their own data in each of their respective fields.

## Partners celebrate TB and Malaria Days

Health care professionals should not be complacent with the current status of malaria in PNG and slack off in their work but rather continue to work hard and promote healthy living among the communities they serve.

This was the message for the World Malaria and TB Day celebrations in Goroka by the Director of IMR, Professor Peter Siba.

Findings from studies by IMR have shown that there is a drop in malaria statistics in the country following the nationwide distribution of free insecticide-treated mosquito nets. However, Professor Siba reminded health care workers and partners that with climate change – the fight against malaria is far from over.

"Climate change is also another factor

that has made it easier for the malaria parasites to survive at high altitudes and multiply. It's becoming warmer in the highlands and more people are becoming infected with malaria", he said.

Various agencies – government, NGOs, civil societies and FBO joined hands to commemorate both World TB and Malaria Days on Friday 25 April in the center of Goroka town.

Since January 2010, three million long-lasting insecticide-treated mosquito nets (LLINS) have been distributed across every province in Papua New Guinea.

Rotary Against Malaria, in collaboration with the National Department of Health and with financial support from the Global Fund to fight AIDS, Tuberculosis and Malaria were responsible for this initiative.

Staff from the Institute's Malaria Control Project also participated at the event by sharing their research findings with the public whilst our microscopists showed interested public the different types of malaria parasites.

This interaction also gave the public opportunity to ask questions on the drugs and medication used in treating malaria which Malaria Control Project staff were happy to answer.

The theme of the day was; *TB: Stop TB in my life time, Malaria: Invest in the Future.*

The event also witnessed the official launching of the Eastern Highlands' Provincial Health Authority's TB Control Plan 2014-2017.

# Prestigious scholarship award to Researcher



Participants of the 2014 Pacific Research Colloquium with Australian Federal Member of Parliament, Jane Prentice, during the group's visit to the Australian Parliament. Herick Aeno: front row, first on the right.

## By Joanne Wayang

Herick Aeno, a Senior Social Researcher with the Sexual and Reproductive Health Unit was one of the 25 scholarship recipients from around the Pacific who were allowed to attend the Pacific Research Colloquium in Canberra, Australia, early this year.

His scholarship was awarded by the State, Society and Governance in Melanesia (SSGM), a research centre at the prestigious the Australian National University (ANU).

Herick's first-authored paper titled "*Justice for whom? Resolving sexual violence in a highlands community in Papua New Guinea*" was well received when delivered to academics from across the Pacific.

In doing so, Herick, profiled issues of masculinity and sexual violence in PNG. The paper, which is now in the final stages before being submitted for review in an international journal draws on data from a two-year study on masculinity in the Eastern Highlands Province..

Herick describes this colloquium as

**“It is one meeting that I had always wanted to attend, especially from the perspective of social research, and finally got the chance to do so.”**

rewarding, educational and intellectually demanding.

“It was not only a meeting to present my work but also a chance to meet well known and highly respected researchers that I had only heard about or read their work,” he said.

“To be mentored and supported academically by such people is a rare opportunity, therefore highly valued.”

“I learned about other people's research work in the Pacific region, especially on social, political, legal issues. The more important outcome for me personally is that I got valuable information from expert researcher on different aspects of social research, from conducting field research to writing academic papers of an international standard.”

“It is one meeting that I had always wanted to attend, especially from the perspective of social research, and finally got the chance to do so. Richard Eves, an anthropologist from the ANU was an important link to me being able to attend. I am currently working with Richard on a number of other important studies and this gave me the chance to be closely mentored by him.”

The colloquium was held from 27 January to 7 February at the Australian National University (ANU) and provided an opportunity for early to mid career social science researchers in the fields of anthropology, development studies, political science or public administration, gender studies, geography, sociology, Pacific Studies or public health to develop research capacity with some of the top Pacific scholars in Australia.

The highly competitive short term scholarship happens annually and is offered to graduate students, scholars and researchers from universities, research institutions, NGOs and other professional bodies in the Pacific Islands and Timor Leste.

# The Laboratory Management Unit



George showing some of the biological specimens inside one of the -80 Degrees Freezer.

By Yvonne Haip

At our headquarters in Goroka, we have another library - not the kind which stores books, journals, publications and reading material but one that stores biological specimens or simply – study samples collected from our studies.

This library is commonly known at IMR as the Freezers and is an integral part of our scientific research at the Institute. It is a key reference area for our scientists.

It is a library choco-block full of biological samples such as aliquots of whole blood, plasma, serum, nasal and vaginal swabs, aspirates, stool, saliva and sputum, among others, boasting an archive of these stored samples dating back to the 1960's.

From the first ever research conducted 50 years ago to the current ones undertaken, each sample is collected then labeled in test tubes, blood collection tubes, slides and specimen storage bags, and stored in the Freezers compartments for safe keeping and referencing.

As a medical research facility, all study samples obtained are of paramount importance and have to be kept to monitor the changing disease trends in PNG.

From malaria blood slides collected in 1960, to nasal swabs of pneumonia patients in the early 1970's, to blood specimens of the first few HIV cases three decades ago, samples obtained from goiter patients, and disease-causing parasites and pathogens, our archives has it all.

There are biological samples taken from population genetics and disease related studies, typhoid patients, sexually transmitted infection study patients, the now eradicated pigbel, tuberculosis, cervical cancer, skin diseases, brain diseases, pneumonia, malaria, and malaria associate diseases, autopsies, and the list goes on.

These samples are kept at specific temperatures to slow their growth so that they can be used again after many years.

Viruses are stored in freezers at -80 °C, bacteria at -20 °C, and other samples are kept at 3-4 °C. Furthermore, specimens are also stored in very extreme temperatures such as liquid nitrogen which is used to store vaccine samples, as well as transporting other samples and is a very expensive exercise.

It is a daunting task ensuring that the Freezers are in order and that the samples are useable whilst at the same time supporting the Institute to meet its objective. This is what our Laboratory Management Unit does best.

Headed by Laboratory Manager, George Koki, a four-member team takes on this task.

According to George or GK as he is most known, every IMR unit has its wonder, and the Lab Management Unit also has its but with an edge making it interesting.

As the name says it all; lab management is all about managing laboratories – this is the daily operations of all lab facilities at IMR in its five branches.

From managing the freezers to procurement of lab consumables, sterilizing and biological waste disposable and management, the Unit does it all.

"Whether they work in the labs, out in the fields or office, staff who deal with sample collection to analysis, all need our unit to do their work. Without this unit, they cannot do anything," he said.

The Unit also manages the store rooms to ensure that all necessities- from test tubes, glass plates and an array of lab consumables used in the laboratories, to tissue, biological garbage bags, as well as carbon dioxide used to grow bacteria and liquid nitrogen to preserve pneumococcal related specimens and shipment are stocked.

"We store from the basic to the most complex of necessities with an aim to make sure that there is no panic or frustration among staff that need to use something but find that it is not in stock," says George.

**"Every IMR unit has its wonder, and the Lab Management Unit also has its but with an edge making it interesting."**



Inside the Cool Room

"Studies have deadlines to meet and we don't want to be at fault for any delays so we make sure that what the study needs is there, and that all equipment are running and ready to use," he said.

And certainly an edge to their work would be the management of import permits for transportation of viruses, bacteria and research medical drugs from our collaborating overseas research institutions and suppliers to IMR.

"Our Unit is in charge of applying for import permits to import viruses, bacteria, research medical drugs and other such material for lab research from other medical research institutions overseas," says George.

"Likewise, if overseas medical research institutions want to use our samples, they also have to seek permission from the Principal Investigators of the studies by liaising with IMR through the Unit."

"The biological samples rightfully belong to the people of Papua New Guinea – they are the owners of these samples because IMR seeks permission to acquire it from them. IMR is the mandated custodian of these samples so if our overseas collaborators want to use our samples, they will have to first of all, seek clearance with us."

George, who has worked with the Institute since 1981, was appointed Lab Manager in 2011 and later Head of the Unit. He is assisted by three staff – Lab Assistants, Anem Ove and Iso Lepi, in wash-up or autoclave room and Biomedical Lab Technician, Jason Maiasa, who also travels to other branches to repair and check equipment there.

Together, they have contributed greatly to the operations of the Institute and GK says it is rewarding seeing results while working in this Unit.

"In an Institute where time is an essence, we ensure there are no failures and that IMR functions without facing a shortage of anything within our jurisdiction, and seeing that there haven't been any failures as yet is our satisfaction," he said.

# Training Nius

## Double Drs for Dr Betuela

Former head of Vector Borne Diseases Unit, Dr Inoni Betuela, successfully defended his PhD thesis in March at the University of Barcelona, Spain. His thesis titled *'The epidemiology and treatment of Plasmodium Vivax'* was officially approved by the PhD Commission of the School of Medicine at the University. Dr Betuela is medical doctor by profession and joined IMR in its Malaria Research.

## Barne completes Masters

Barne Willie successfully completing his two-year Masters Program at the University of Cleveland in Ohio. His Masters Research project was titled *'The Association of Toll-like Receptor Polymorphisms with Human Immunodeficiency Virus Infection in North Americans.'*

This project wanted to identifying mutations in protein receptors that are found on human cells.

Barne's study in the US was supported through collaboration with IMR by the Forgarty International Grant, through the centre for Global Infectious Disease Research Training Program at CASE Western University at Cleveland, Ohio, USA.

Barne is now attached to the HIV/STI laboratory as a Senior Scientific Officer.

## JCU grants Masters Award to IMR Staff

Matthew Omena, will soon graduate with a Masters Degree award at James Cook University in Australia, after almost a year of waiting. Matthew is a Senior Scientific Officer with the Environmental and Emerging Diseases Unit. He was one of the recipient of the 2011 Australian award which saw him completed his Masters in Biomedical Science at James Cook University in Australia.

After much review and assessment of his Masters' Thesis, his grade has been approved for award.

## Three graduate with high Honours

Three out of the four 2013 Partnership in Health Research Training Program, Honours students graduated with flying colours after successfully completing their one-year program.

These students Joe Jude, Nola N'Drewei and Benishar Kombut were awarded Second Class Upper Division this year while Tilda Orami will be graduating next year.

So far the PiHTP has graduated more than 20 Honours students since its inception four years ago. This program was established through collaboration with the Institute, UPNG and ExxonMobil PNG .

## Support staff receives Basic Accounting Course

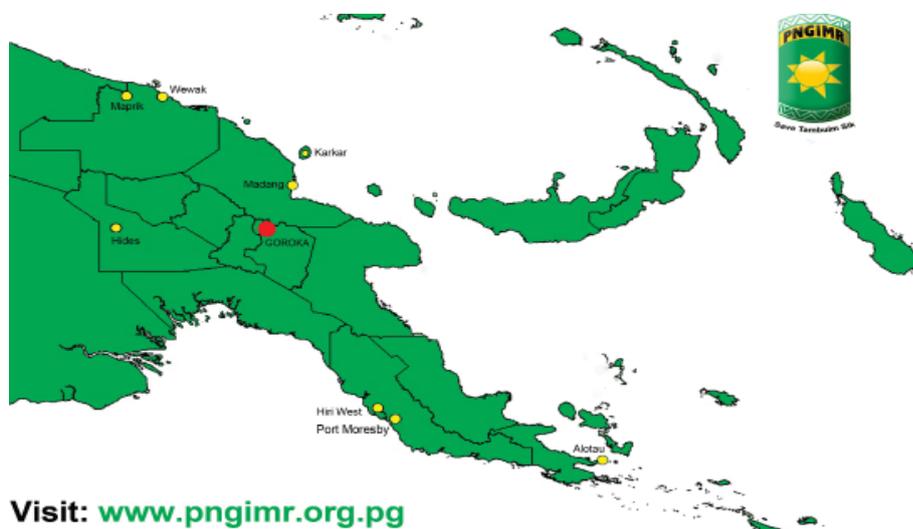
After a prolonged delay, seven staff working in various support units of the Institute finally received their certificates in Basic Accounting from the University of Goroka (UOG). As part of the Institute's staff capacity building program, this training was organised especially for relevant support staff and research project officers whose respective roles involve certain financial tasks. The course covered basic accounting principles and concepts. These include Journal Entries, Ledgers, Trial Balance, Balance Day Adjustments, Balance Sheet, Bank Reconciliation, and Petty Cash.

Through an established arrangement with UOG, the certificate received is highly recognised whilst at the same time participant's results are entered into the university's main record system. This allowed staff to earn credit points similar to all other internal undergraduate courses.

This arrangement is also an advantage for the staff as in the event they intend to go for full time study at the university, this short course will be counted as part of their credit points. The certificates were presented by Vice Chancellor of the university, Dr Gairo Onagi on May 29. The actual course commenced towards the end of 2012 and was completed in April 2013.

Training Nius is compiled by Dickson Kuvi (Training Officer) and John Yogiyo (Assistant Training Officer). Phone: +675-531 4259.

## OUR LOCATIONS



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# Graduate Program turns dream into reality



Barne and his two supervisors. From left to right; Prof Daniel Tisch, Barne and Prof Peter Zimmerman during his graduation.

Barne Willie is a Senior Scientific Officer in the Institute's HIV/STI Laboratory in Goroka.

This Laboratory conducts cross-cutting research into HIV/AIDS and other sexually transmitted infections.

Barne completed his Masters in Biology in April, this year, from the Case Western Reserve University (CWRU) in Ohio, US and has returned to IMR to work.

His study in the US was supported through collaboration with IMR by the Forgarty International Grant, through the centre for Global Infectious Disease Research Training Program at CWRU at Cleveland, Ohio, USA.

In this article, Barney shares his experiences about his two-year training.

It was late August of 2011, when I left the shores of PNG for a trip of a lifetime – to study and live in the US for two years. Being a first-timer to the States, I didn't really know what to expect, except from the stories that I was told.

It was a really long flight out of Port Moresby. From Port Moresby, I transited a day in Brisbane and then took an early flight to LAX Airport in Los Angeles and finally to Cleveland, Ohio.

It took me almost three full days to finally reach my destination – Case Western Reserve University.

As I stepped out of the terminal at Cleveland, it was a whole new world for me. There were many people, cars and tall buildings. It was all pavements and the whole place was clean.

Although I arrived late in the afternoon, I felt like I was in a mad rush hour.

There were many people and cars just rushing here and there and there was no free space, like in PNG, where you can move around freely.

It was quite hard settling down, in the first month as I try to adapt to life in the States while also looking for an apartment.

I was taken care of by the Jaspers Family for the first month.

I finally found an apartment just near the University.

Finding that apartment meant so much to me as I felt settled down.

The area did not have many buildings and there was a lot of free space.

Thereafter, I got used to the rush hour lifestyle of work and the tall buildings.

By the end of September, I was enrolled into the Masters in Biology Program at the University.

It was an intense two-year program and was both challenging and interesting.

It was challenging because of the amount of workload, especially when preparing for presentations and exams.

Personally, it was the oral presentations and journal club discussions which I had to lead that I found most challenging.

I had to prepare myself thoroughly before those presentations – knowing full well that the audience are mostly experts in their own fields.

These were students who had double PhD, Medical Doctorate Degrees and Masters and that meant that there would be a lot of questions.

It puts so much stress on me to make sure I was satisfied with my preparation before the presentation and discussion.

**"Now looking back on those two-years, I am grateful for the experience and those challenges. They not only helped me excel in my profession but also gave me an opportunity to attain new ideas, skills and information."**

I did this just to make sure I was quite prepared and did not embarrass myself.

There was also so much to learn in terms of article readings, normally ranging from three to four articles per class.

I was not used to such a very hectic study life. There were many highs and lows during my two-year study.

But whenever there was a low, I referred back to two sayings by two great men – Dr William Pomat and George Koki, both of whom are staff of IMR and great mentors and friends.

Before I left for the States, Dr Pomat told me that "You either swim or drown – there are always challenges but keep working hard". George said "You can get all the encouragements and advice in the world but it's only you that will make it happen. People will be there for you to give you support but you have to put the effort in to achieve the goals."

Those statements always motivated me to bounce back from my lows and continue to work towards completing my Master's program.

*Turn over to read the story.*

## Barne's story continues

My two-year program involved, lectures, tutorials, more reading and writing, presentations, exams and also the lengthy hours of laboratory work collecting and analysing samples for my Master's Research Project.

The title of my Research project was *'The Association of Toll-like Receptor Polymorphisms with Human Immunodeficiency Virus Infection in North Americans'*.

Or simply, it was a study to identify mutations in protein receptors that are found on human cells of the North American study population.

These protein receptors recognise and remove micro-organisms that caused diseases in humans. So when there is a mutation in the protein receptor, this causes the receptor to change its shape.

When this happens, it will no longer recognise these diseases causing micro-organisms – for this case the HIV virus.

So those individuals with these mutations can become either susceptible or resistant to infections.

I chose that as my Master's project because it was in line with my research interest and also because that project had just actually begun when I joined Dr Peter Zimmerman's laboratory.

So I was so fortunate to work on the project right from the start – it was a bonus for me.

The samples were collected and provided through the Centre for AIDS Research at the University Hospital, CWRU and Red Cross, Maryland.

This project was of great significance not only to my Masters but also to me as a Scientific Researcher in HIV.

This is the second study to be done in the US and was the first to actually identify that mutations in Toll-like receptor 1 and 6 were associated with HIV infection.

We were also able to evidently show that the association was race specific.

This study is of great importance as now that we know the above information, we can do genetic profiling of individuals in certain areas, regions, races or ethnicity to understand to some extent whether they are predisposed or protective to certain infections.

This can help direct treatment interventions and care for those individuals and populations. Apart from humans, we can use the methods in this study to do genetic profiling of pathogens, to identify the circulating strains and this can also help direct treatments.

This study is applicable to Papua New Guinea and it is my goal, now that I'm

equipped with much needed knowledge and skills, I would like to conduct such studies at the HIV/STI lab too.

In particular, my medium-term aim is to introduce genetic analysis and genetic profiling assays to do human and pathogen genetic profiling and pathogen detection.

In the long run, this could lead to setting up and establishing an in-house surveillance and point-of-care (POC) genetic analysis tool in parallel with other POC kits which can be affordable and robust.

Now looking back on those two-years, I am grateful for the experience and those challenges.

They not only helped me excel in my profession but also gave me an opportunity to attain new ideas, skills and information.

We have many good studies at the IMR but one thing lacking on our part, as young national scientists, is the ability to produce publications and I'm keen on promoting that too. I'm currently working on my first author publication and it is based on my research project.

I have fond memories of my time in the States.

One particular experience which to this day puzzles me was once I was kicked out of a shop and I had no clue what I had done.

When I stood questioning the manager, he said he was going to call the police on me. So I walked out the shop.

It's not funny but it was an exciting experience for me.

There are many people that have been great mentors and friends to me and many I am grateful to for their support throughout the two-years of my study which I would like to acknowledge.

Dr Peter Zimmerman (PhD) and Dr James Kazura, School of Medicine, CWRU; Dr Peter Siba and our Training Coordinators at IMR, Dickson Kuvi and John Yogyo; Dr R. Melhotra and support staff of the Fogarty Program, Centre for Global Health at CWRU, Dr Noemi Hall and Dr Chris Stein at the Epidemiology and Bioinformatics-Epigenetics; Friends, staff and colleagues in Drs Peter Zimmerman A.Weinburg Laboratory at the CWRU Dental School, Dr Claire Ryan and lastly to the two important persons, my Mum and Dad and the rest of my family.

The current graduate programs that we have at the Institute are gems and for me, I totally appreciate it as without this program, I don't think I would have come this far in my career.

It is a great stepping stone for me – from Honours to now Masters.

For those thinking of advancing their studies, from my experience, there is nothing that cannot be done.

You can do it regardless of where in the world you are and the challenges thrown at you. Determination and hard work will pay off and once you have that 'Paper' all those stressful days and sleepless nights that you had will be history.

You will look back, and with a smile of achievement thanked the good God that you have been though it - just like I did.

But also it is important not to forget that success is the end result of both positive and negative (in a positive way) inputs from people around you. If you knew me, I would like to thank you for being a part of it.



The Steiner Cooperative House Member sof 2012-2013, CWRU group photo.