

Education in Ethiopia

Lake Awassa and the city from a nearby hill called Allah Amoura

Further Information

■ This is the first in a series of journal reports from Jenny. If you can't wait until the December issue of *Microbiologist* for the next instalment you can find out more about her activities and see some more photos at www.neal-jenny.info

■ For more information about VSO, see www.vso.org.uk.

■ The Faculty of Natural Sciences at Debus University also has a website at <http://home.no/dufnns>



I ARRIVED IN ETHIOPIA on Feb 2nd this year to work for two years as a Voluntary Service Overseas volunteer. My role here is as a Biology Instructor at Debus University in Awassa. Lying 275km south of Addis Ababa, Awassa is the capital of the Southern Nations Nationalities and Peoples' Region (SNNPR).

Debus University was formed in 2000 from the amalgamation of three higher education institutes in the region. The Faculty of Natural Sciences was formed last year and offers four-year degree courses. I am working in the Department of Applied Biology and my partner Neal is also here working in the Department of Applied Physics.

Before coming here, I completed a Ph.D. and B.Sc. in Immunology at the University of Glasgow. My PhD work was carried out in the Division of Infection and Immunity under the supervision of Professor Tim Mitchell. I investigated pro-inflammatory mediator production by pneumolysin, a pore forming toxin produced by *Streptococcus*

Educational provision and standards in Ethiopia are quite inadequate and educational structures badly run down, with acute shortage of materials. A high proportion of teachers are either incompletely or poorly trained and teaching methodologies are old fashioned. The education system is trying to develop different and appropriate methodologies and the education bureau is providing training but it still requires a lot of effort and new skill input to bring significant change. **Dr Jenny Search**, a microbiology & immunology graduate of Glasgow University signed up for a two-year voluntary service overseas (VSO) placement to bring some much-needed expertise to Debu University.

Learning how to use microscopes



pneumoniae. Whilst finishing my thesis I spent six months working at the Beatson Institute for Cancer Research. During that time I decided I wanted a change from Glasgow and applied for a placement with VSO. The process went through very quickly and six months later I found myself here!

My job here is partly to “Gap Fill” as there is a lack of

qualified teachers in Ethiopian Universities. The other aims of my placement are to help develop new courses for the upcoming 3rd and 4th year students and to assist my colleagues in starting research projects.

Teaching

Amharic is the official language of Ethiopia, but over 70 languages are spoken in

this region alone. Luckily for me, English is used as the medium of instruction in Ethiopia from secondary school. The students still receive lessons in the English language throughout their time at university. In the first year of the Faculty of Natural Sciences there are about 1,050 students who all take introductory courses in Biology, Chemistry, Physics,

Maths and Geography. At the end of their first year they will choose one of these departments in which they will complete their degree.

Teaching an introductory course has been interesting. I've found myself teaching subjects I haven't taken since my own first year at university! I've certainly had to brush up my knowledge of photosynthesis. ▣

I am currently teaching two first year (freshman) classes, each consisting of 150 students. After a couple of lectures of completely blank faces, the students started to get used to me (and my accent) and I to them. I was worried a class of this size would be quite daunting but the students are very quiet and studious and there is generally a great deal of respect for teachers.

As the Faculty is new – two years old – there are currently only first and second year courses running. In October the present second years will become third years, so over the summer break I will be involved in designing those courses. I am looking forward

Ethiopians wishing to study for a doctorate have to leave the country. This exacerbates the problem of educated people not returning to their home country once they have left - the so called “brain drain”. There are some sponsorship schemes (for example a Norwegian scheme called NORAD) that fund Ethiopians to spend two years carrying out research here and then two years in Norway to analyse data, use equipment not available to them at home and to write this up. Under this scheme if the student does not return to their home country the scholarship becomes a loan which must be repaid. The staff do have some research experience as they

food poisoning organisms in fruit juices or other foods in local cafes/restaurants, analysis of the microbial quality of drinking water in Awassa and biodiversity of microorganisms in local hot springs. I am also planning on trying to develop some collaborations with interested laboratories abroad.

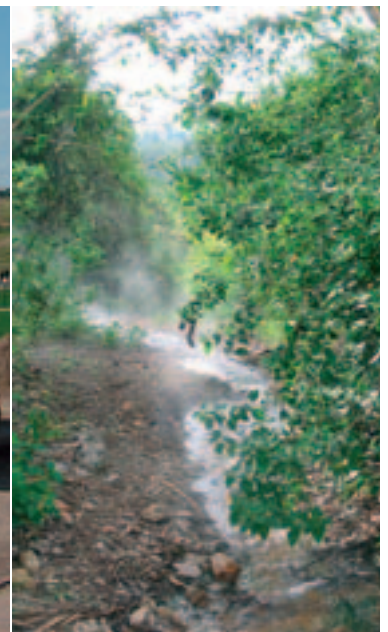
It is quite a challenge for me to think of experiments that do not involve any of the equipment I previously took for granted. There is no equipment to carry out any kind of molecular studies. What we do have is an autoclave, a few incubators, a wooden hood that can be used for sterile work i.e. it has a hole in the bottom that a

from 6 am until 10 pm for two days of the week. I can see this being a problem for storing microbiological samples. However the local public health laboratory records show the temperature stays fairly constant if the fridge/incubator is not opened on days when there is no power. On the plus side, my colleagues are all highly motivated and keen to do research so hopefully we can begin to overcome these problems.

Unfortunately, the only practical microbiology I've carried out so far has been the unintentional culture of amoeba in my own digestive system!

□

The classrooms in the new campus where the first years are taught. The rooms in this building will become laboratories when the rest of the classrooms have been built.



to this as I will be involved with courses I know something about i.e. microbiology, parasitology, molecular biology etc and I will also be involved in designing the practical classes to go with them.

Research

One of the difficulties for would-be scientists here is that, at present, there is only a limited PhD programme in the country which is available in Addis Ababa University. Most

have completed MSc courses at Addis Ababa University. I have set up some “research meetings” with some colleagues who have an interest in microbiology. We have come up with three small projects which we hope to be able to start with the equipment we already have. We are busy writing proposals for small amounts of funding to buy media etc so we can make a start. The three research projects we hope to start are: bacterial analysis for

Bunsen burner can fit in to. There is a fridge/freezer but no -80°C or liquid nitrogen storage facilities.

Electricity is another problem – or rather the lack of it! In Ethiopia, the majority of the electricity is generated by hydropower. Although we have had plenty of rain in Awassa, this was not the case for most parts of the country. This means our one no-electricity day has recently increased to two. Countrywide the electricity is turned off

Downstream of the source of a hot spring at Wondo Genet. One of the sites where we hope to study the diversity of microbes in a hot-spring environment. This water is also used to fill a swimming pool at the bottom of a hill which is like a hot bath and very relaxing!

Jenny Search
University of Glasgow