



Pollution Research Group
University of KwaZulu-Natal, Durban
South Africa

Support to Sanitation Practitioners
Visitor Information

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All documents referred to in this booklet are available to download from the PRG web site: <http://prg.ukzn.ac.za/visiting-researchers/information-for-visiting-researchers>

1. Important Information

1.1 Note on visiting times

It is recommended that the following periods are avoided for a visit to South Africa in terms of conducting research and field trials.

Mid-December to mid-January: This is the summer holiday for the majority of South Africans and many organisations are not fully operational during this time.

October to March: This is the rainy season in Durban and may impact on pit emptying operations and other field trials.

1.2 Contact details

The Pollution Research Group is situated in the basement of the New Chemical Engineering Building on the Howard College Campus of the University of KwaZulu-Natal, in the city of Durban South Africa.

Physical Address	Postal Address
Pollution Research Group Basement, New Chemical Engineering Building King George V Avenue (Entrance 3, off Rick Turner Road) University of KwaZulu-Natal Howard College Campus Glenwood Durban, South Africa	Pollution Research Group Chemical Engineering University of KwaZulu-Natal Durban 4041 SOUTH AFRICA
Telephone:	+27 (0)31 260 3375

1.3 Key staff members

The Pollution Research Group has 8 core staff members and a number of post-graduate students working on various projects. Some contact details are provided below.

Name	Position	Contact details
Chris Buckley	Head of PRG	buckley@ukzn.ac.za (0828067251)
Kerry Philp	Administrator	philpk@ukzn.ac.za (0724252741)
Eddie Mbolekwa	Assistant Administrator	mbolekwae@ukzn.ac.za (0742677932)
Tina Velkushanova	Project Engineer	Velkushanova@ukzn.ac.za (0763565380)
Susan Mercer	Project co-ordinator	mercerc@ukzn.ac.za (0823759104)
Chris Brouckaert	Senior Research Fellow and Process Modelling	brouckae@ukzn.ac.za (0784516882)
Santiago Septien	Project Engineer	Septiens@ukzn.ac.za (0738711375)
Merlien Reddy	Laboratory Manager	Reddym5@ukzn.ac.za (0837574682)

1.4 Access to Campus

International visiting researchers can obtain a parking disc to enable them to enter the campus grounds in their vehicle, as well as an access card for entering the Chemical Engineering building. Templates for these letters will be provided once the visit has been finalised.

1.5 Process for undertaking research at PRG facilities:

1. Completion of the relevant questionnaires (available on our website)
2. Meeting with PRG management on arrival together with project supervisor
3. Induction by laboratory manager
4. Practical training by laboratory manager
5. Practical assessment by laboratory manager – at which time a decision will be made as to which tests can be performed by the researcher on his/her own
6. Drafting of detailed experimental plan with the laboratory manager
7. Drafting of SOPs for the relevant experiments with the laboratory manager
8. Daily diaries to be kept by researcher / student outlining all activities carried out that day
9. Weekly progress reports to be submitted to PRG management and project supervisor such that problems can be identified early and adjustments made to the experimental plan
10. Monthly progress reports to be submitted to PRG and project supervisor
11. Before leaving PRG, reports and data to be submitted to PRG management
12. Handover of samples and work area to the laboratory manager.

Access to the laboratory and the use of technicians, is controlled by the Laboratory Manager. All requests must therefore be first discussed with Lab Manager and the relevant forms completed. This is essential for both the planning of work flow in the lab, and for internal cost recovery.

A similar procedure is applicable for making use of the Workshop facilities (e.g building or modification of equipment etc.).

1.6 Use of the PRG and Newlands Mashu laboratory facilities

All researchers / students working in the PRG laboratory and at the Newlands Mashu Research Site are required to undergo **health and safety induction, practical training** and a **practical assessment** prior to making use of the facilities. In some cases, only the PRG technicians are to undertake laboratory analyses due to the complexity of some tests and the cost of the equipment. Where this is applicable, the researcher/student will be responsible for sample preparation and observing the test procedure.

The Newlands Mashu Test Site is only open from 8am to 4pm during week days due to security reasons. The PRG laboratory is open from 8am to 4pm week days, and afterhours by prior arrangement.

1.7 Import and export permits

In order to bring sanitation samples into South Africa, an import permit is required for customs. This import permit is valid for a 12 month period from the time of issue and a new permit is required for each type of sample. Similarly, if you want to send samples from South Africa to your home country, an export permit is required. Please liaise with the PRG in obtaining the necessary permit. This

permit takes in the region of 3 to 4 weeks to obtain. For more information please refer to the relevant SOP in the SOP manual, or visit the Department of Health website (www.health.gov.za)

1.8 Materials Transfer Agreement

If samples are to be exchanged between two organisations, a materials transfer agreement (MTA) needs to be signed. A template will be provided which can be adapted to suit the sample type. This MTA is kept on file along with the permit and the ethical clearance. The template for this agreement can be found on our website, or via the UKZN's Ethics Unit website: <http://research.ukzn.ac.za/Research-Ethics>

1.9 Ethics Approval

You may require ethics approval if you are conducting experiments or trials involving obtaining data or information from human subjects. The UKZN's Ethics Unit is in charge of this aspect and has the following information posted on the web site: <http://research.ukzn.ac.za/Research-Ethics>:

“The University of KwaZulu-Natal is committed to ensuring the compliance and the ethical integrity of all research conducted done under its auspice. Through the Ethics Unit of its Research Office, UKZN manages the approval and monitoring process for the use of humans and animals in research at UKZN and its affiliated research institutes. All research involving humans and animals conducted by faculty, staff, students or external researchers attached to UKZN or its affiliated institutes, must be approved by one of the three UKZN Research Ethics Committees:

- *Biomedical Research Ethics Committee (BREC)*
- *Animal Research Ethics Committee (AREC)*
- *Humanities and Social Sciences Research Ethics Committee (HSSREC)*

All students, staff and other persons who, although not affiliated to the University but are involved in research at/or in association with UKZN, must familiarize themselves with the University Ethics Policy.”

The HSSREC and BREC are both applicable to the type of research conducted in conjunction with the PRG depending on the type of project undertaken. Ethics approval is required for all projects and may be essential for joint publications. This application process can take in the region of 3 to 4 months, and may also require a fee to be paid.

Note: The onus is on the visiting researcher to communicate with the PRG to ensure that the required ethical clearance is obtained in time.

1.10 Shipping of Goods

If you are requiring any goods to be brought to the PRG, then you will need to obtain an ATA Carnet. Some information on this is provided here, together with links to further information.

It may also be worthwhile investigating sending items as unaccompanied baggage a few days prior to your trip as this costs less than paying for excess baggage on the day. Your airline should be able to assist you in this regard.

The **ATA Carnet** is an international customs document that allows the holder to temporarily (up to one year) import goods without payment of normally applicable duties and taxes, including value-

added taxes. The Carnet eliminates the need to purchase temporary import bonds. So long as the goods are re-exported within the allotted time frame, no duties or taxes are due. Failure to re-export all goods listed on the Carnet results in the need to pay the applicable duties. Failure to remit those duties results in a claim from the foreign customs service to the importer's home country.

The acronym ATA is a combination of French and English phrases "Admission Temporaire/Temporary Admission."

Carnets apply to three broad categories of merchandise: commercial samples, professional equipment and goods for use at exhibitions and fairs. With the exception of perishable or consumable items, the product range is nearly limitless. Carnets are regularly used to facilitate movement of everything from display booths to racing yachts.

Individuals or firms wishing to use a carnet to move goods in and out of foreign countries must submit an application and the necessary collateral to their home national guaranteeing organization.

More information: http://en.wikipedia.org/wiki/ATA_Carnet

The SA Revenue Services policy document is available at the following link:

<http://www.sars.gov.za/AllDocs/OpsDocs/Policies/SC-TA-01-04%20-%20ATA%20Carnet%20-%20External%20Policy.pdf>

The South African Chamber of Commerce and Industry (SACCI) is the sole issuing and guaranteeing association in South Africa, contact Carnet Department: <http://www.sacci.org.za/>

Glennalee Hayselden: +27 (0)11 446 3800; email: icc@sacci.org.za

2. Laboratory information

If you would like to undertake laboratory and field work experiments, please complete the relevant questionnaires that are provided as separate Word documents on the PRG website (i.e. Laboratory and field questionnaire; Analysis of samples questionnaire)

2.1 Indemnity and Laboratory training

All persons working in the PRG laboratories need to sign an indemnity form provided as a separate word document (i.e. Indemnity form).

2.2 Personal Protective Equipment (PPE) requirements

The **laboratory manual** provided lists the PPE requirements for each test that is carried out in the laboratory. The following PPE will be provide by PRG:

- Latex powder free gloves
- Dust masks
- Glasses

Researchers are required to provide all other PPE.

2.3 Vaccines required

The following vaccines are required for working in the laboratory. It is recommended that overseas visitors obtain these prior to coming to South Africa. Further information can be found in the **laboratory manual**. Please remember to have your vaccination cards filled in and submit them to the Laboratory manager on arrival.

- Hepatitis A and B
- Tetanus
- Typhoid

2.4 Use of analytical equipment

Due to the cost of some of the analytical equipment and the degree of training required to operate these, the following equipment may only be used by the PRG laboratory technicians. Visiting researchers are encouraged to prepare all their samples and observe the use of the equipment. This includes the following:

- TKN system
- COD system
- Autotitrators
- GC
- Particle Size Analyser
- MP-AES
- Calorimeter
- Thermal Conductivity Analyser

Equipment that may be used by all visiting researchers, after training by the Laboratory Manager, includes:

- Spectrophotometer
- Moisture balance
- pH/conductivity meter
- Rheometer
- Penetrometer
- LaDePa laboratory plant
- Oven
- Furnace
- Filtration system
- Analytical balances
- Experimental set ups such as vortex bioreactor, biofuel cells, biodegradability reactors, co-digestion reactors, etc.

2.5 Cost of analyses

Up until the end of 2017, the PRG has a grant from the Bill & Melinda Gates Foundation to support sanitation practitioners. This allows the PRG to provide analytical services at a discounted rate until this time, which is based on the cost of chemicals and wear and tear on the equipment.

All researchers are required to log all tests carried out in the laboratory via the laboratory management procedure which will be explained by the laboratory manager, and the relevant charges invoiced to your organisation.

As of January 2018, the full cost recovery rates will apply which includes the cost of the technicians labour.

The costing sheet can be downloaded from the PRG web site: **Laboratory analysis costing sheet**.

3. General Information

3.1 Computer and Internet access

There is Wi-Fi connectivity throughout the University campus. A guest login will be provided for your stay in Durban.

Mobile connectivity is available via a dongle and SIM card. The PRG will make these available and visitors will be responsible for purchasing phone credit (air-time).

Most computers work well with the University system apart from Apple Mac, although a work-around can normally be undertaken (but not guaranteed).

Note: *Windows computers: if any computer assistance is required, the local IT people only understand English, so other language systems could present difficulties.*

3.2 Electricity

All electricity in South Africa works on a voltage of 220 V single phase; 380 V 3-phase and that there is the possibility of power cuts.

South African plug points are unique and take the 3-pin round (BS 546 15Amp). An adapter will therefore be required for laptops and cell / mobile phones.

For more information on the various plug types, please see: http://en.wikipedia.org/wiki/AC_power_plugs_and_sockets

The PRG may have some stock of adaptors so please inform us of your needs prior to your visit.

Note: *Eskom, the South African electricity provider, has implemented a schedule of "load shedding" due to the stress on the electricity supply system. Each area in the country has a period of between 2 to 2.5 hours per day (sometimes twice a day) where no electricity is supplied. The load shedding schedule changes from time to time and the relevant schedule will be made known to the researchers such that experiments can be planned around these times.*

3.3 Water

The quality of the tap water in South Africa is high and is safe to drink.

3.4 Transport

While in Durban, it is best to have your own transport. Most of the well-known car hire companies such as Avis, Hertz and Europcar operate in Durban; there are also numerous local companies. Reputable taxi companies include Mozzie Cabs and Eagle Taxis. Mini bus taxis operate most routes

and are frequent and inexpensive. However, the roadworthiness of these mini-buses is not always good and the driving not always safe which make this a risky option.

3.5 Accommodation options

There are a number of accommodation options near to the University.

Name	Address	Contact person	Contact details
Chris Buckley's house	49 Essex Drive, Westridge, Durban	Chris Buckley	buckley@ukzn.ac.za
<p>Notes: About a half an hour pleasant walk to campus. Not advised to be done carrying a laptop. Not on a transport route to campus.</p> <p>Costs: 1 week - R 1 000.00 2 weeks - R 1 500.00 3 weeks - R 2 000.00 1 month - R 2 500.00</p>			
D'Urban Elephant	330 Cato Road, Glenwood, Durban	Howard or Marleen	+27 (0)31 2056926 info@durbanelephant.co.za
<p>Notes: Really nice option. A pleasant 15-20 min walk to campus. Stays of longer than a few days are preferred and special rates can be requested for longer stays.</p> <p>Price of accommodation to be enquired directly through D'Urban Elephant.</p>			
Glenmore Pastoral Centre	10 Donlene Crescent, Glenmore, Durban		+27 (0)31 2056271 http://www.glenmorecentre.co.za
<p>Notes: 10 min walk to campus; cost effective for longer stays and can include meals</p> <p>Price of accommodation to be enquired directly through Glenmore Pastoral Centre.</p>			

3.6 Weather

Durban weather is mild and sub-tropical. Summer months are warm and wet, while the winter is moist to dry. Between January and March, the maximum daytime temperature is 28 °C, while the temperature reaches a maximum of 23 °C from June to August. Rainy weather is at its least between April and September. June is the driest month with a precipitation of just 28 mm / 1.1 inches.

Durban is characterized by a mild subtropical climate having an average of 320 days of sunshine in a year. Light rain falls all through the year. Overall, it experiences warm and wet summers and mild moist to dry winters.

Summer

Summer is the wettest season in Durban with a high level of humidity. This season lasts from November to March with temperatures often rising above 30 °C. The apparently never-ending summers are enjoyably hot. In December, there is possibility of strong tropical thunderstorms almost daily in the afternoons.

Winter

In Durban, winter starts from June and lasts till August with average temperatures of 16 to 25 °C. This season is usually warm and sunny. The occurrence of rain is also low and the nights get warm and humid.

Spring and autumn

There is highest rainfall from spring (October) to autumn (April). Durban has an annual rainfall of 1,009 millimetres.

Ref: <http://www.worldweatheronline.com/Durban-weather-averages/Kwazulu-Natal/ZA.aspx#4Bq88S0rWKbHjllC.99>

3.7 Currency and Banks

The currency in South Africa is the Rand and cents. There are 100 cents (c) in one Rand (R1). Bank notes currently available are R200, R100, R50, R10 and coins of R5, R2, R1, 50c, 20c, 10c.

Banking hours are generally from Monday to Friday 09h00-15h30 and Saturday 08h30-11h00. Automated teller machines (ATMs) operate 24 hours a day and can be found in most shopping centres.

VISA and Mastercard are accepted everywhere.

3.8 Tourism information

There are many interesting and fun activities in and around Durban. Students in the PRG are happy to assist in arranging outings, so please feel free to speak to them. Some useful websites are:

- <http://www.durbanexperience.co.za>
- <http://www.durban.kzn.org.za>

Supporting Documentation

<http://prg.ukzn.ac.za/visiting-researchers/information-for-visiting-researchers>

1. Checklist for researchers / students
2. Laboratory manual
3. Laboratory analysis costing sheet
4. Laboratory and field questionnaire
5. Analysis of samples questionnaire
6. SOP manual
7. Indemnity form
8. Sanitation tour document
9. Ethics application forms and information
10. Permit application forms and information