

PSSA NEWSLETTER

Physiology Society
of Southern Africa



A word from out PSSA fellow Prof D Gray

David Gray: Reflections of a Physiologist..from Newcastle to Johannesburg..

Our newsletter team recently caught up with Prof. David Gray, newly elected Fellow of the PSSA, who kindly shared some insights regarding his successful career as a Physiologist.

1. Tell us a bit more of your early years growing up and going to school.

I was born in the north-east of England and went to primary and secondary schools in Newcastle upon Tyne. I was a teenager in the sixties and so grew-up during the "pop revolution" as a fan of the Beatles, Fleetwood Mac (the original line-up) and the Rolling Stones. I was, and still am, a big supporter of Newcastle United, and spent many a Saturday afternoon in the old St James' Park.

2. When did you find a passion for science and more specifically for Physiology?

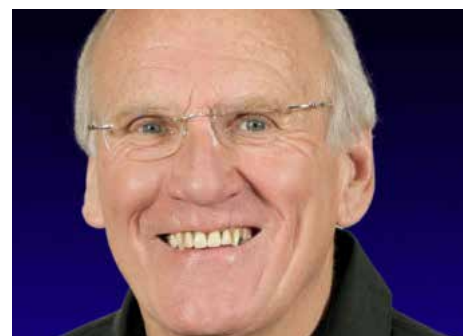
Like most youngsters I really wanted to either be a rock star or a football player,

but I didn't have the skills necessary for either occupation. I always liked animals and originally wanted to be a vet and although that didn't work out, I retained my interest in animals and how their bodies work.

3. Explain a bit more about your undergraduate years and what led to you decide to complete a PhD degree.

My undergraduate years were also spent in the north-east of England and were well structured in so much that I managed to find a balance between furthering my understanding of physiology, increasing the share price of Scottish and Newcastle breweries (the makers of Newcastle Brown ale) and watching Newcastle United.

My path to a PhD degree was not typical as my first objective when I graduated with a BSc was to get a job and so I took up a post as a Research Officer at the National Institute for Biological Standards and Control (NIBSC), in Hampstead, London. The unit I worked in, which later moved to the National Institute for Medical Research, Mill Hill, London, was headed by John



Parsons, who at the time was one of the leading researchers in the field of parathyroid hormone and calcium homeostasis. I spent eight years in that unit, during which time I gained a lot of experience in the development of radioimmunoassays (RIAs).

Based on my experience with RIAs, in January 1981 I moved to a laboratory at one of the Max-Planck Institutes in Bad Nauheim, Germany, to develop an RIA for a research group working in the field of avian osmoregulation and led by Eckhart Simon. Things went well in Germany and after about four years Professor Simon offered me a scholarship to study for a PhD degree. The scholarship stipulated that I should study overseas and so in October 1985 I, together with my wife and small daughter, moved to the University of

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Port Elizabeth (now known as Nelson Mandela Metropolitan University) as a doctoral student of Professor Theunis Erasmus in the Department of Zoology.

4. In a nutshell what was your PhD thesis about?

My PhD studies were basically a continuation of the work I had been doing in Germany, however, instead of using the domesticated Pekin Duck as the experimental model, I worked primarily in pelagic birds. I had originally wanted to focus on Jackass penguins (now called African penguins) however, after several visits to the campus nurse for treatment for gashes caused by penguin beaks, I moved to working with Kelp gulls and Cape gannets as safer options.

My work in the gulls and gannets investigated the physiology of the osmoregulatory hormones arginine vasotocin (the avian antidiuretic hormone) and angiotensin II. Specifically, I looked at the factors which control the circulating levels of the two peptide hormones as well as their physiological actions, primarily at the kidneys and salt glands.

5. Based on your experience, what are the lessons you can share with postgraduate students to successfully complete MSc and PhD degrees?

Apart from the obvious things such as working hard and dedication, I think it is important to remain focussed on the questions posed in MSc and/or PhD studies, as it is sometimes very easy to become distracted or side-tracked when carrying out research work. A mentor of mine once told me that "hard work is no substitute for clear thought" and I have always tried to apply that in my career.

6. Can you explain how you ended up at Wits in South Africa?

I was awarded my PhD at the University of Port Elizabeth in December 1987 and returned to the Max-Planck Institute in Germany to take up my previous research position. I had expected

to stay there for a number of years, however, as at other times in my life, fate intervened and things happened which prevented that. The event I am talking about was the fall of East Germany (the Berlin wall) in November 1989, which markedly affected the running and functioning of the Max-Planck Society and its institutes.

The unification of Germany meant that funds were diverted from the Max-Planck institutes in the previous West Germany to build-up facilities in the deprived East part of the country. As a consequence, the number of non-permanent posts were greatly reduced and this included my post. So basically, I lost my job in the name of democracy. Based on the experiences that I and my family had whilst in Port Elizabeth, we decided to come back to South Africa and so in January 1992 I took up a grant-funded research post in the Department of Zoology at Rhodes University, Grahamstown and two years later moved to the Department of General Physiology at Wits. The Departments of General Physiology and Medical Physiology amalgamated in 1996 to form the Department of Physiology, which later became the School of Physiology present today.

7. Can you name a couple of highlights in your esteemed academic career that really stand out?

There aren't really any individual events which stand out as major highlights in my professional career. However, there have been lots of things which do come to mind as being particularly enjoyable and which make an academic career rewarding and in many ways gratifying. Things such as a student thanking you for making a difference to their understanding of a complex aspect of physiology or when a postgraduate student is awarded their degree after a particularly difficult project has come together. With respect to research, like most researchers, I'll always remember receiving notification about the acceptance for publication of the first paper which I had driven from start to

finish. Then there's working with some of the best researchers in their field or meeting the worlds' best researchers, such as, in my case, William Ganong and John Hall (major researchers at the time in the field of vasopressin and angiotensin II physiology as well as textbook writers).

8. What advice would you give to young budding Physiologists at the start of their careers?

Giving advice about the best ways for someone to move forward in their careers is difficult because choices are often determined by individual personal circumstances and there's no "one size fits all" approach. However, there are two things which have played a big role in my own professional research career and which are very much intertwined, which I'd like to mention. Firstly, I have been extremely fortunate in being offered opportunities at different times in my life and so I guess the advice to a young physiologist would be to grasp any opportunities offered and not to be afraid of making bold moves. Secondly, I think it's a major advantage for a young physiologist to work with someone from whom they can learn the ropes. This means that it's crucial that a budding physiologist gives a lot of thought to whom they choose for their guidance and mentorship, if they are lucky enough to have a choice.

9. What did it mean to become a Fellow of the PSSA?

It was an honour to become a Fellow of the PSSA. It's very gratifying to receive acknowledgement that the work I've done over the years has made a contribution to the discipline of physiology and the field I worked in.

10. What are your favourite hobbies and activities outside work?

I don't have a hobby such as stamp collecting or building model railways, however what I do enjoy is messing around in the garden and DIY. Also, like most people, I like going to the bush and of course, I'm still a loyal supporter of Newcastle United!



Fastone Mathew GOMA

BSc(UNZA), MB ChB(UNZA), MSc(UCL), PhD(Leeds)

I obtained my BSc(Human Biology) (1985) and MB ChB (1988) at the University of Zambia School of Medicine, MSc in Physiology(1994) at University College London and PhD in Cardiovascular Sciences(1998) at University of Leeds Institute for Cardiovascular Research. I returned to the University of Zambia School of Medicine to teach and mentor within the Department of Physiological Sciences in 1998.

My research was initiated at the Hatter Institute for Cardiovascular Studies, University College London in 1993-94 where I investigated the phenomenon of the “second window” of myocardial protection following preconditioning in the Rabbit heart. I studied haemodynamic and electrophysiological changes in combination of isometric and isotonic exercises in patients with coronary artery disease for my PhD. Over the last 17 years I have successfully mentored post-graduate students, developed

teaching curricula for undergraduate and post-graduate students in Physiology and Cardiovascular Medicine, and continue to be an active instructor within the Master of Science and Master of Medicine programs. I have constituted the Centre for Primary Care Research (CPCR) from which are launched the following research programs:

1.Cardiovascular Diseases (CVD) Research

The Cardiovascular Research Laboratory within the Dept of Physiological Sciences is equipped with 1) the COMPLIOR Analyse (Alam Medical Ltd, France) for measurement of Pulse Wave Velocity (PWV) and related parameters, a surrogate measure of endothelial dysfunction, 2) the DIASYS Integra II for measurement of ambulatory blood pressure, QKD and related haemodynamic measurements, and 3) holter ECG monitor (DR180+ Digital Recorder, Northeast Monitoring Inc, USA) for electrophysiological

studies. This technological capacity has furthered research on arterial stiffness, cardiovascular risk within various populations including congestive heart failure patients, tobacco users, HIV patients, and pregnant women. I have particular interest in the pathoaetiology of Atrial Fibrillation in hypertension and heart failure, and participating in the search for effective mitigation of eclampsia.

2. Herbal Medicines Research

The Physiology laboratory is equipped with the PowerLab Data Acquisition System, AD Instruments, Australia with capacity for wet muscle tissue mounts on which we are investigating the uterotonic influences *Steganotaenia araliacea* Hochst (Umbelliferae) extract, nicknamed “herbal pitocin” is used by traditional birth attendants in Zambia to induce/accelerate labour in pregnant women. We are also searching for efficacious traditional remedies for hypertension.



onal Academy of Medicine 2016

3. Tobacco Control Research

In championing knowledge translation, CPR is secretariat for a consortium of tobacco control advocates working through the WHO - Framework Convention for Tobacco Control (FCTC). I also serve as the Zambian Principal Investigator for the International Tobacco Control Evaluation (ITC) Project sponsored by University of Waterloo, Canada which is a national survey of tobacco use and of the impact of tobacco control policies in Zambia.

4. Health Systems Research

I am engaged in the area of Human Resources for Health (HRH) research which has furthered scientific understanding of factors related

to deployment of HRH in Zambia, especially in rural areas, and of effective strategies to promote health care worker retention and the people's equitable access to care.

5. HIV Research:

I have facilitated research in various aspects of HIV infection especially as it relates to equity in health and access to antiretroviral treatment. Much of my published work has focused on health systems strengthening and human resource needs during the HIV/AIDS response in Southern Africa. My ongoing work continues as we see the transition of the epidemic into a chronic disease with influence on non-communicable diseases including cardiovascular complications of

chronic anti-retroviral therapy. I have 2 PhD students enrolled to study the influences of obesity and severe undernutrition on the cardiovascular health of HIV patients.

All the research done is anchored on a sound knowledge translation platform to equitably influence utilisation of knowledge generated for policy formulation and/or implementation. All my effort in academia recently recognised in my admission to the National Academy of Medicine (NAM), Washington, USA Class of 2015. This is a great honour in science and medicine.

Fastone M. Goma

45th Conference of the Physiology Society of Southern Africa



We are pleased to announce that the 2017 PSSA conference will be hosted by the Department of Physiology, University of Pretoria from 27 to 31 August. This conference serves as the annual flagship event of the PSSA which unites emerging researchers and expert scientists from across the country and beyond to share their research findings & future aspirations.

This year's PSSA conference has been extended to include an additional day in order to incorporate the University of Pretoria's annual Neuroscience Day. Both conferences are characterized by their rich diversity of topics and multidisciplinary nature, therefore aiming to showcase a spectrum of research related to both physiology & neuroscience.

We look forward to welcoming you to the Jacaranda City!

We have teamed up the best of physiology & neuroscience to deliver a truly promising & miscellaneous program!

- Prof du Toit, Chairman: local organizing committee

ABSTRACT SUBMISSION DEADLINE: 16 JUNE 2017

[CLICK HERE](#) TO SUBMIT YOUR ABSTRACT ONLINE

The committee invites the submission of abstracts to be considered for oral presentations and posters.

The deadline for the submission of abstracts is 16 June 2017. Registrars are specifically invited to present.

Please [click here](#) to submit your abstract. Faxed abstracts will not be accepted. All appropriate abstracts will be reviewed by the Scientific Committee. All abstracts received will be acknowledged, and authors will be sent acceptance or rejection letters by the 16 July 2017.

Please note that authors of accepted abstracts must be registered delegates.

INSTRUCTIONS TO AUTHORS:

1. Each abstract must clearly state the following:

- Abstract title (the title of the abstract must not exceed 25 words)
- Name of list of author(s). The name of the presenting author must appear first in the list of authors.
- Affiliation of author(s).

-Contact details of first author (telephone numbers, e-mail address etc)

2. Abstracts must be typed in English, single line spacing, Arial font size 12.

3. The body of the text must not exceed 350 words (this excludes the information listed in point 1)

4. Please adhere to the following format:

-Introduction: should be brief and informative and state the aim of the study

-Methods: include description of subjects and research methodology

-Results: outline the findings of the study supported by statistics as appropriate. Do not use figures, graphs or tables in the abstract.

The data provided must be sufficient to permit peer review of the abstract

-Conclusion: provide summary and relevance of the main findings

All accepted abstracts will be published without further editing.

Abstracts that do not adhere to the specific format will not be published.

PSSA
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DON'T KEEP CALM

ONLY

ONE DAY LEFT FOR

**ABSTRACT
SUBMISSIONS**



PSSA student competition operational guidelines 2017

WYNDHAM PRIZE OPERATIONAL GUIDELINES

The Wyndham Prize Competition was instituted by the Society in 1985, and first awarded in 1986. It is named in honour of the late Professor Cyril Wyndham, who was an internationally renowned South African exercise and heat stress physiologist. The award is presented to a young researcher for the best oral presentation in the Physiological Sciences at the Annual PSSA Conference. The Wyndham competition is important not only because of the prestige involved, but the winner also becomes eligible to be considered for a sponsored trip to the next International Union of Physiological Sciences (IUPS) Congress.

Rules of the Wyndham Competition: The competition is open to young researchers who are registered as STUDENTS at any tertiary institution in Southern Africa. Entrants for the competition may not be older than 30 years of age at the time of the competition, nor may they already be in possession of a PhD (or equivalent) degree.

JOHNNY VAN DER WALT PRIZE OPERATIONAL GUIDELINES

The Johnny van der Walt Prize Competition awards a prize for the best poster by a pre-doctoral student at the Annual PSSA Conference. The Prize is named in memory of Professor Johnny van der Walt, who was the Head of the Department of Physiology in the Faculty of Veterinary Science at Onderstepoort, University of Pretoria, from 1990 until his untimely death on the 28th June 2004.

Rules of the Johnny van der Walt Competition: The competition is open to young researchers in the Physiological Sciences who are registered as STUDENTS at any tertiary institution in Southern Africa. Entrants for the Competition may not be older than 30 years of age at the time of the competition, nor may they already be in possession of a PhD (or equivalent) degree.

Other awards on offer include:

- Best methodology
- Best general poster
- Best honours project
- Best paper for 2016

For more information about these awards, please click on the link: <http://physiolsoc.org.za/us/awards/>

These grants are strictly for fully paid student members that intend on presenting their work/data at this year's conference. Each grant is valued at R3000.00. Interested students may apply by filling in the travel grant form and send it to the PSSA secretary (bishi@sun.ac.za).

Deadline for the travel grants is Friday 30 June 2017.

STUDENT TRAVEL AWARD APPLICATION 2017



TITLE, INITIALS & SURNAME:

INSTITUTION & DEPARTMENT:

DEGREE (eg. MSc – 1st, PhD – 2nd):

PRESENTATION (ORAL OR POSTER):

TITLE OF PRESENTATION:

PSSA MEMBERSHIP NUMBER:

ABSTRACT SUBMISSION (YES/NO):

MOTIVATION (why should you be awarded the travel grant. Max. 350 words):

Email: Dr Balindiwe Sishi (bsishi@sun.ac.za) once form is complete

Nominations open for PSSA fellows and the LASEC award



PSSA Fellow: Please refer to PSSA website for a list of current fellows.

LASEC Award: This award honors a well-established, physiologist who has proven their research excellence over a period of time. The recipient should:

- have an excellent national profile and a high level of international recognition,
- have added value to the society through research innovation,
- be an active contributor at the PSSA congress in terms of the research presented by themselves and/or their students and the fostering of critical thinking and discussion.

The deadline of nominations to the PSSA secretary is Monday 31 July 2017.

The 10th edition of the Leiden International Medical (bio) Student Conference (LIMSC)

I was fortunate to attend the 10th edition of the Leiden International Medical (bio) Student Conference (LIMSC), from the 15th to the 19th of March 2017.

The conference is known as the largest biennial student conference in the world with close to 800 student attendance from across the world.

The conference took place in the historic town of Leiden in The Netherlands and was hosted at the Leiden University Medical Center (LUMC).

The conference was very inclusive and invited participants from medical, bio-medical as well as life sciences field of study. The program included

a number of internationally acclaimed speakers such as Prof Dr Jon van Rood (Chairperson of the Eurotransplant and Eurodonor Foundation) and Prof Dr Harry Büller (Chairperson of the Vascular Medicine Working Group).

What set this conference apart from others, was the unique state-of-the-art workshops that were presented. Some workshops involved training laparoscopic skills using a simulator in the skills laboratory in the medical center while others involved discussions on the potential of using cellular and viral proteins such as apoptin as novel anticancer therapies.



The highlight of the conference was seeing how many a student engage with like-minded personalities, discussing the intricacies of medicine and life in it's entirety over a cup of coffee and a stroopwafel (or two)...





SAVE THE DATE

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FOR MORE INFORMATION VISIT THE WEBSITE
OR E-MAIL TO: IUPS2017@MCI-GROUP.COM

