



RHODES EXCHANGE

Bringing you news about research, progress and development

*ISSUE 004 / MARCH 2014



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OUR RESEARCH ENGINES

RESEARCH IS ONE OF THE POWER HOUSES OF A UNIVERSITY AND A platform for developing knowledge capacity in our institutions. While we have already announced our five new SARCHI Chairs, a visit in February from the National Research Foundation to the Rhodes campus became the catalyst to launch these areas of research excellence into the public eye. In this issue we focus on the programmes already in place under two of these new Chairs. We take a look at marine natural products as a pathway to pharmaceutical discovery.

And we begin to uncover how the intellectualisation of African Languages and multilingualism in education could be a key driver in the transformation of our institutions and capacity development in South Africa.

Imagine a world where pushing the frontiers of multilingualism opens the doors of education to those who have previously had little access.

Imagine a world where marine natural products unlock the key to healing drugs ...



Our newly appointed Chairs are pictured here with the NRF's Dr Romilla Maharaj, the Executive Director: Institutional Capacity Development, Dr Peter Clayton, our Deputy Vice-Chancellor of Research and Development, and Dr Linda Mtwisha, Programme Director: South African Research Chairs Initiative: Prof Russel Kaschula, SARCHI Chair in Intellectualisation of African Languages, Multilingualism and Education; Prof Charlie Shackleton, SARCHI Chair in Interdisciplinary Science in Land and Natural Resource Use for Sustainable Livelihoods; Dr Romilla Maharaj, NRF – Executive Director: Institutional Capacity Development; Dr Peter Clayton, our Deputy Vice-Chancellor of Research and Development; Prof Catriona Macleod, SARCHI Chair in Critical Studies in Sexualities and Reproduction; Prof Rosie Dorrington, SARCHI Chair in Marine Natural Products; Professor Steve Compton, SARCHI Chair in Insects in Sustainable Agricultural Ecosystems; Dr Linda Mtwisha, NRF – Programme Director: South African Research Chairs Initiative

In our next issue ... In our next issue we look at some of the exciting work done under more of our new SARCHI Chairs. »»



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NEWSFLASH

Congratulations to Mr Vuyo Kahla who was elected as the new Chairperson of the University Council. Mr Kahla is a Rhodes alumnus who has served the University as a member both Council and the Board of Governors. He becomes Rhodes University's first black Chairperson of Council. Taking over from Judge Jos Jones he brings with him extensive leadership and global executive experience straddling the corporate and education sector.

He has been the Chairman of the Council of St John's College in Johannesburg, member of the University of South Africa (UNISA) Council and its Exco, and Chairman of the UNISA Audit and Enterprise Risk Management Committee until his retirement from that Council in June 2013.

Mr Kahla is a member of the Group Executive Committee of Sasol Limited and holds the positions of Group Executive: Advisory & Assurance and Company Secretary. He is also a director of a number of Sasol group companies, including Sasol Mining (Pty) Limited, Sasol Petroleum International (Pty) Limited, Sasol Gas Limited, Sasol Chemical Industries Limited and Sasol Group Services (Pty) Limited.

Prior to joining Sasol, he was Group Executive: Office of the Group Chief Executive of Transnet SOC Limited, having initially joined Transnet's Group Executive Committee as Group Executive: Legal and Risk in July 2004.

Kerry Peter

*WORD WEAVER

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MARINE NATURAL PRODUCTS AS PHARMACEUTICALS



PROFESSOR ROSEMARY DORRINGTON

PROFESSOR ROSEMARY DORRINGTON'S MARINE Natural Products Research Chair aims to explore the potential of natural biosynthetic pathways as a platform for drug discovery.

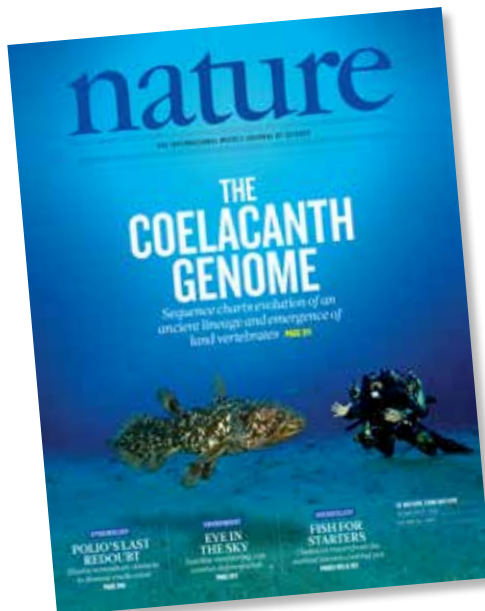
Globally, marine organisms are recognised as an important source of new bioactive compounds with potential pharmaceutical and other economically important applications. Over the past 30 years, marine organisms, and in particular invertebrates (sponges and ascidians), have been a rich source for the isolation and characterisation of novel marine natural products. A significant number of these compounds have potential applications either directly or as lead compounds in the pharmaceutical industry. South Africa is surrounded by diverse marine environments, rich in unique indigenous organisms with incredible potential to provide novel natural products.

The aim of the Marine Natural Products Research Chair, led by Professor Rosemary Dorrington at Rhodes University, is to develop a multidisciplinary research platform in marine biodiscovery and fundamental studies on the functioning of our marine ecosystems. In particular, her interest is in studying specialised microbial symbionts associated

with indigenous marine sponges and other invertebrates that produce bioactive compounds with pharmaceutical potential. The research aims to exploit the potential of these natural biosynthetic pathways as a platform for drug discovery.

Prof Dorrington's current research forms part of a multidisciplinary programme to study the role of the microbiota (focusing on bacteria and viruses) in ecosystem functioning. The research programme is built around the application of metagenomics technologies to characterise microbial diversity and metabolic activity in aquatic and terrestrial ecosystems and their response to global change. She has worked in biotechnology commercialisation leading research programmes funded by national and international industry and served as a member of the Board of Trustees of the LIFELab Biotechnology Regional Innovation Centre.

Prof Dorrington came to Rhodes University as a lecturer in Microbiology after completing three years as a Postdoctoral Research Fellow at the University of Tennessee in Memphis, USA. She was promoted to full Professor in the Department of Biochemistry, Microbiology and Biotechnology in 2008 and served as Head of the Department from 2004 to 2009. She was also Deputy Dean of the Faculty of Science from 2008 to 2011. During 2003 and 2004 Prof Dorrington was a Fulbright Visiting Scholar to the University of Alabama at Birmingham, Alabama in the USA.



COELACANTH GENOME SEQUENCING

Professor Rosemary Dorrington has led several large, multidisciplinary research programmes including the South African Coelacanth Genome Sequencing Initiative and her research has been published in international peer reviewed journals. Most notably she co-authored the recently published article on the coelacanth genome in Nature.

The modern coelacanth looks remarkably similar to its ancient relatives and its evolutionary proximity to our own fish ancestors provides a glimpse of the fish that first walked on land. The article reported the genome sequence of the African coelacanth, *Latimeria chalumnae*, the first known living specimen of which was discovered in 1938, a remarkable find considering that this lineage of lobe-finned fish was thought to have become extinct 70 million years ago.

Through a phylogenomic analysis the study found that lungfish and not the coelacanth, is the closest living relative of tetrapods. Coelacanth protein-coding genes are significantly more slowly evolving than those of tetrapods, unlike other genomic features.

Prof Dorrington's DNA sequencing research prompted Marjorie Courtney-Latimer, the East London museum official who first recognised the strange specimen amongst a trawler's catch as a rare find that later led to JLB Smith identifying it as the "living fossil" fish, to write her a letter in 2002, this is a shortened excerpt:

*"Dear Professor Dorrington
Dr Graham Shelper mentioned your desire to decode the entire DNA sequence of the coelacanth. I agree and think it would be of great interest - and I wish you well with your research!"*

Some years back DNA authorities asked for a sample of the Type Specimen in the East London Museum and they took about 2 inches from the caudal fin - leaving it looking very battered - I do not know what institution, asked for the sample? It was after I retired from the Museum.

I would like to see your research - if I may have a copy when you complete the work.

With kind wishes and congratulations on your work.

*Very Sincerely,
Dr Marge Courtenay-Latimer"*



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WHERE LANGUAGE PUSHES THE FRONTIERS OF EDUCATION

“The frontier of multilingualism may just be defined at this University, Rhodes University.” – Professor Somadoda Fikeni, 15 May 2012

THE CHAIR IN THE INTELLECTUALISATION OF African Languages, Multilingualism and Education is pushing the frontiers of multilingualism as well as the application of indigenous languages in an educational context, thereby creating opportunities. “The main thrust of this research is to see how we can use multilingualism in South Africa as a resource not only for creating social cohesion but also for exploring ways of utilising languages in ways that best assist economic growth within, for example the BRICS countries, as well as within the educational milieu in South Africa,” said Professor Russell Kaschula, the NRF SARCHI Chair.

Ways of boosting language in terms of status and the creation of terminology in indigenous languages as well as creating another dimension for opportunity planning are explored under the Chair. Research done by colleagues such as Dr Pamela Maseko in collaboration with the Chair also highlight the need for research literary historiography in African languages.

Work within the African Language Studies Section in the School of Languages places emphasis on the value of collaboration and this extends across universities such as CPUT, UCT, UKZN, UNISA, Limpopo, Leipzig, and East London in the UK as well as other universities to create a consolidated and sharing research platform for issues relating to multilingualism and education. There are presently more than 20 PhD

students, 20 MA students and a number of Honours students who work with the Chair.

There is a need to boost the throughput of MA and PhD candidates and it is hoped that increased involvement at postgraduate level will feed the need for societal recognition of multilingualism as a resource and its positive impacts on society. These facets are an important component of research that is explored through the Chair as illustrated by the projects below:

Ms Naledi Mbude-Shale, who heads up the language policy unit in the Eastern Cape Department of Education, furthered her Masters research to PhD level and is currently using Cofimvaba schools as a case study where mathematics is taught only in isiXhosa. In a recently published lead article in the Daily Dispatch she furthers the argument that “multilingualism and multiculturalism are the only vehicles to ensure mutual respect”, not least educational and economic success. <http://www.dispatch.co.za/opinion/dont-let-conceit-destroy-this-garden-of-diversity/>

“My Chair is also working with Dr Sirion Robertson, Dr Ken Ngcoza in Education and other colleagues in African Language Studies (Dr Hleze Kunju and Dr Pam Maseko) and we are well down the way of creating a bilingual isiXhosa-English science text book for the intermediate phase of schooling – we will be looking for a publisher in the



PROFESSOR RUSSELL KASCHULA

near future,” said Prof Kaschula. We are about to complete a first draft after which the material will be sent to Drs Maseko and Ngcoza for vetting.

We also have an MA student under the supervision of Dr Maseko who is working on isiXhosa terminology creation in Cell Biology with the view to see how this can assist students with better cognition before crossing over to English. This student, Wanga Gambushe, is now in his second year of study.

In collaboration with Professor Janice Limson the Chair could also soon look at the use of multilingualism and multilingual strategies to allow Science to reach more people out there, including through the popular media.

CHINESE FUNDING FOR THE CONFUCIUS INSTITUTE

The Chinese Government’s Ministry of Education, through the Hanban, has generously given US\$1 million to Rhodes University. Although the Chinese Education Department doesn’t fund for building construction, the money has been given for the refurbishment of the Confucius Institute and Rhodes will enquire whether it is possible that the funding could be used in the construction of the School of Languages, of which Chinese Studies and the Confucius

Institute are a part. This option will depend on the Memorandum of Understanding that will come after the meeting between the Hanban delegation and the Vice-Chancellor, Dr Saleem Badat. The date of this crucial meeting is yet to be determined. However, the first application for construction funds that was addressed to the Ministry of Commerce is still in force, and Rhodes is optimistic that this Ministry, responsible for construction worldwide, will make a decision soon.





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VICE-CHANCELLOR TO TAKE UP MELLON DIRECTORSHIP

As Dr Saleem Badat announces his departure from Rhodes University later this year we thank him for the contributions he has made to our University during his term and wish him well in his continued endeavours on behalf of tertiary education in South Africa through the Mellon Foundation.

Following Dr Saleem Badat's decision to step down as Vice-Chancellor of Rhodes University later this year, in early March the President of The Andrew W Mellon Foundation, Dr Earl Lewis, announced his imminent appointment to the Foundation's newly established post of Program Director for International Higher Education and Strategic Projects.

Dr Badat will oversee and direct the Foundation's international grantmaking and the ongoing programs in South Africa.

Over the past 20 years the Mellon Foundation has provided over \$118 million of support to South African universities and cultural institutions. Its main goal has been to develop capacity in higher education by providing opportunities for individuals who were previously disadvantaged and individuals who have demonstrated a commitment to the previously disadvantaged.

Dr Lewis indicated that "support for South African higher education and specifically for the arts and humanities will continue to be a major priority,

which Mellon grantmaking will continue to reflect."

Dr Lewis said he was "extremely pleased to have an intellectual, university leader and scholar of Dr Badat's calibre join the Mellon Foundation. He will bring a wealth of knowledge, expertise and experience and we are excited to have him as part of the Mellon team."

He will also join a distinguished advisory panel assembled by the Mellon Foundation to guide a multi-year effort called Our Compelling Interests, which will produce an annual summary of the best research findings on the value of diversity from a variety of perspectives. This annual summary is intended to provide scholars, academic leaders, legal experts, policy makers, business executives and others with a "state-of-the-field" assessment.

Dr Badat will be based at the Mellon Foundation headquarters in Manhattan, New York, and assume his post in late-2014. He will travel to South Africa regularly as part of Mellon grantmaking activities.

He is the current Chairperson of Higher Education South Africa (HESA), and has served on the executive committee of HESA and as Chairperson of its Funding Strategy Group and Teaching and Learning Strategy Group. He was previously Chair of the Association of African Universities Scientific Committee on Higher Education. He is also a board member of the Centre

for Higher Education Transformation, a member of the World Social Science Forum 2015 Scientific Committee, serves on the Think Tank of the Third Carnegie Enquiry into Strategies to Overcome Poverty and Inequality, and is a trustee of the Harold Wolpe Memorial Trust.



DR SALEEM BADAT

A WORD FROM THE MAN HIMSELF

As we begin the process to appoint a future Vice-Chancellor to lead Rhodes in a manner fitting to our calibre, we have an opportunity to reflect on our recent past. An excerpt from Dr Saleem Badat's announcement impresses the important role of a vice-chancellor in South Africa's transformational education environment:

"The post of Vice-Chancellor is today one of the most demanding and challenging leadership positions in South Africa and internationally. I have revelled in the challenges and have spent eight interesting, fulfilling and rewarding years at Rhodes. I thank you for entrusting the leadership of Rhodes University to me during the past eight years and I thank all those who have supported me and my efforts to further develop, transform and modernise Rhodes. I have sought to lead Rhodes by example and in a principled, open and transparent manner with deep respect for academic freedom, freedom of expression and the autonomy that is critical for scholars, faculties and academic departments to thrive and advance the frontiers of knowledge. I have counselled against an obsession with global rankings and on the need

to remain focussed on the core idea, meaning and purposes of what it means to be a university – not just in abstract, but under the real conditions of a developing and transforming country and changing continent and world. In a nutshell: how do we cultivate knowledgeable, skilled and compassionate graduates and citizens, produce knowledge through different kinds of scholarship and engage with communities within a framework of commitment to the public good and building a society in which all are able to enjoy dignity, afforded opportunities and lead rich, rewarding and productive lives.

I have emphasised the need to advance social equity and justice, uphold the dignity of all, embrace, respect and appreciate difference and diversity as powerful fountains of intellectual, scholarly and institutional vitality, confront unacceptable aspects of our institutional culture and practices and make Rhodes genuinely a Home for All. I am excited by the next and new generations of young scholars who combine wonderful intellects and values and have joined Rhodes committed to its development and transformation. The Rhodes that I will leave is in very

good shape. The process to formulate an Institutional Development Plan as an institutional compass for the future, which is currently underway, will table and seek to address some of the key challenges that face Rhodes. If these challenges are wisely and courageously addressed, Rhodes has a great future and will continue to be one of Africa's outstanding universities. I have now committed myself to an institution that has offered me an exciting opportunity to use my knowledge, expertise and experience to continue to contribute to the development and transformation of South African universities.

With gratitude for entrusting me with the privilege of leading Rhodes University between 2006 and 2014"

DR SALEEM BADAT

To read the full announcements:

<http://www.ru.ac.za/latestnews/name,105529,en.html>
<http://www.ru.ac.za/latestnews/name,105519,en.html>