

## In this Issue...

*In our cover story we provide highlights from the recent CAPRISA Scientific Advisory Board meeting that was held at the Fairmont Hotel in Zimbali from 14-15 April.*

*On page 4 we congratulate the Masters and Doctoral graduates who were awarded their degrees at the recent graduation ceremonies.*



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## The future meets the past at CAPRISA's 2015 Scientific Advisory Board meeting



**“I couldn’t be prouder of CAPRISA—its past and its future.”** Those were the words of Zena Stein as she accepted the honour of having a visiting lectureship for eminent international scholars in public health named after her and her late husband, Mervyn Susser.

The 92-year-old epidemiologist was speaking at a gala dinner at the Oyster Box Hotel as part of the CAPRISA Scientific Advisory Board (SAB) meeting held at the Fairmont Zimbali Resort in Durban from 14-15 April 2015. She shared the honour with Hoosen ‘Jerry’ Coovadia, who also got a lectureship in paediatrics named after him.

The R2 million lectureship fund, co-sponsored equally by the Abdool Karims and the South African Medical Research Council, was only one of the important announcements made at the meeting.

Minister Naledi Pandor, the South African Science and Technology minister,

announced that CAPRISA and the University of KwaZulu-Natal would host a DST-NRF Centre of Excellence in HIV Prevention.

The centre of excellence status means CAPRISA will receive about R50 million over five years for research and training, with a potential further five years of funding pending review. “We’re very excited that such a centre of excellence is being established for the first time in South Africa... taking on this challenge to find solutions to one of South Africa’s and the world’s biggest problems,” Pandor said.

During the gala dinner, guests from near and far, distinguished scientists, politicians, activists and journalists, also got to hear from the co-discoverer of HIV and Nobel Laureate, Françoise Barré-Sinoussi, who was welcomed as a newly appointed member of the CAPRISA SAB.

Barré-Sinoussi praised CAPRISA for its world-class research, its willingness to



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## The 2015 CAPRISA SAB meeting

take risks, to focus on research that is relevant to the local population, and for its efforts in training young researchers. “I really admire what CAPRISA is doing. I hope they will expand in South Africa, but also in Africa, and try to extend the activities and expertise in the region,” she said.

The two-day SAB meeting brought distinguished scientists, policymakers, activists and journalists to hear about recent and forthcoming research in CAPRISA’s four priority areas: HIV epidemiology & prevention, microbicides, pathogenesis & vaccines and TB-HIV treatment.

During the meeting’s opening session, University of KwaZulu-Natal Vice-Chancellor Albert van Jaarsveld hailed CAPRISA as one of his university’s “flagship” investments. “They drive the quality of research that we’d like to see across all the university,” van Jaarsveld said.

Luiz Loures, Deputy Executive Director of UNAIDS, then explained how the next five years were critical to stopping the HIV epidemic in its tracks. A massive 15 million people are on treatment in low- and middle-income countries, he said. But by 2020 nearly twice as many will need to be in treatment, he said. “We need to push further. Complacency is a secondary epidemic,” as he described how complacency in Uganda has undone that country’s achievements in controlling HIV infection.

US Ambassador, Deborah Bix, the Head of the Presi-

dent’s Emergency Plan for AIDS Relief (PEPFAR), spoke about how the programme is tapping the wealth of data it has accumulated since its launch in 2003 to better direct support to where it is most needed.

In Nigeria, for example, Bix said that the HIV programme coverage in the areas with the lowest prevalence was as high as 90% or 100%, while in areas with high prevalence the coverage is less than half. “We haven’t matched the services to the need. So now we are assessing where the HIV is highest, and then using that data to decide where the action should be, at a very granular site level.”

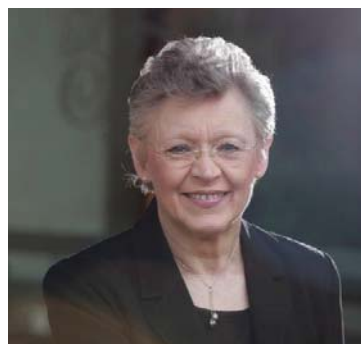
Salim Abdool Karim, CAPRISA’s Director, gave an overview of CAPRISA’s recent achievements. Over the last five years, CAPRISA scientists have produced 259 journal articles. Of these, more than half had a CAPRISA scientist as the first author. One in three of the articles is published in journals with impact factors higher than five.

An epidemiologist to the core, Abdool Karim presented the incidence rates of CAPRISA articles published in some high-impact journals. A CAPRISA article appears in *Nature* and *Science* about once a year. They appear a little more often—once every 10 months—in the *New England Journal of Medicine*. A *Journal of Virology* article is produced every four months.

Quarraisha Abdool Karim, Ayesha Kharsany and Joanne



Minister Naledi Pandor announcing that UKZN and CAPRISA will host the DST-NRF Centre of Excellence in HIV Prevention



Nobel Laureate, Françoise Barré-Sinoussi



Deborah Bix, US Ambassador at Large and Head of PEPFAR



UKZN Vice-Chancellor, Albert van Jaarsveld





## continued from page 2 **The 2015 CAPRISA SAB meeting**



*Precious Matsoso, Director-General: National Department of Health, addressing the delegates at the banquet dinner.*



*Announcing the eminent lectureships named in honour of Zena Stein (above) and Hoosen (Jerry) Coovadia (below).*



*Giving the closing address at the CAPRISA SAB meeting, Dr Joe Phaahla, Deputy Minister of Health.*

Passmore described the HIV epidemiology and prevention work that is underway at CAPRISA. This includes a study trying to understand why genital inflammation seemingly enhances HIV infection. The high incidence among young women was framed as a key research priority, and a project is underway to map genetic strains of HIV to see who is infecting whom in a rural KwaZulu-Natal community.

In HIV-Tuberculosis co-infection, the priority is on curbing mortality, which remains unacceptably high among patients who have contracted both diseases. "We have to stop the deaths due to HIV-TB co-infection," said Nesri Padayatchi, CAPRISA's Deputy Director. She gave an overview of the research in the pipeline, which includes studies to understand what drives the relapse of tuberculosis in HIV infected patients.

Another study on implementation science led by Kogie Naidoo will investigate whether integrated TB-HIV treatment in primary health clinics will give better health outcomes at a community level.

This will look at outcomes in 40 clinics, hoping to see a 20% difference in survival between the integrated care clinics and the ones following current standard practice.

A scientific announcement that received a lot of interest and even some applause was data

fresh from the Ragon Institute in Boston. Scientists there conducting tests in monkeys to assess the efficacy of CAP 256.VRC26.25.LS, a broadly neutralizing antibody based on an antibody produced by a woman in CAPRISA's 004 study. CAPRISA's pathogenesis team, which isolated the antibody, is working on it as a possible candidate for passive HIV immunization.

The data presented at the conference showed that after two weeks, all the animals that had received the antibody before being challenged with SHIV remained disease-free. The data is still at a very early stage, said Dan Barouch from the Ragon Institute. "But I think we're on a good track here."

Thereafter, a panel comprising Directors of several other AIDS research units discussed the importance of collaboration. Co-chair of the panel, Mark Heywood of the human rights organisations, Section 27, highlighted the importance of researchers establishing collaborations with communities and activist organisations.

In the final session, the Deputy Minister, Joe Phaahla, outlined the challenges facing the country in dealing with AIDS and congratulated CAPRISA for its many achievements. These sentiments were echoed by several others who commented on the innovation and high calibre of CAPRISA's proposed new set of studies.

**Photos from the SAB meeting can be downloaded at:**

**<https://picasaweb.google.com/115624912938514559998/CAPRISASAB2015?authkey=Gv1sRgCKCJxZSIxOK2lwE&feat=email>**



## CAPRISA's recent PhDs and Masters Graduates

**C**APRISA congratulates its recent PhD and Masters graduates. Cheryl Baxter, Tanuja Gengiah, Anneke Grobler, Koleka Mlisana and Marian Loveday were awarded their doctoral degrees and Nivashnee Naicker and Alicia Desmond were awarded their Masters degrees at the recent University of KwaZulu-Natal's graduation ceremonies. A summary of the research conducted by these graduates is provided below:



Tenofovir, the most widely used drug to treat AIDS, can lead to rebound hepatic flares, a severe form of liver disease. In this randomised controlled trial of about 1000 urban and rural KwaZulu-Natal women, **Dr Cheryl Baxter** showed that intermittent application of 1% tenofovir gel for HIV prevention did not alter hepatitis B acquisition rates, impact on hepatitis B viral load, or lead to hepatic flares or tenofovir resistance genetic mutations. The study showed that tenofovir gel can be safely applied by women with hepatitis B virus infection.

In contrast to previous studies, **Dr Tanuja Gengiah's** PhD research demonstrated that rifampicin-based TB treatment unexpectedly increased plasma concentrations of first-line HIV drug efavirenz. Genetic differences that influence the functioning of important drug metabolizing enzymes were found, in part, to explain these findings. The concentration of rifampicin, a critical anti-TB drug, was found to be well below the recommended target range. Dose modification of both drugs will not only benefit co-infected patients but will also provide public health benefits for South Africa.



The statistical analysis of longitudinal data in a clinical trial often has the unavoidable problem of missing data. **Dr Anneke Grobler's** PhD research presented methods for dealing with missing data and provided an in-depth analysis of two data sets. The first, an open label, randomised controlled trial in HIV-tuberculosis co-infected patients and the second, a placebo-controlled, randomized clinical trial conducted for 8 weeks to determine the effectiveness of hypericum or sertraline in reducing depression.

KwaZulu-Natal is a global hotspot for the drug-resistant TB and HIV epidemics. In **Dr Marian Loveday's** prospective cohort study of over 1500 patients, models of care for patients with drug-resistant TB were compared. Treatment closer to patients' homes in 4 decentralised sites attached to district hospitals, was more effective than care in a centralised specialised hospital, but varied across the decentralised sites. This study also showed an association between health system performance and treatment efficacy.



**Dr Koleka Mlisana's** research on the role of immunological and viral factors following acquisition of HIV-1 subtype C infection in women, lead to her developing a clinical algorithm to aid clinicians in diagnosing acute HIV infection in resource limited settings. The high burden of asymptomatic sexually transmitted infections and genital inflammation in these women during early HIV-1 infection was associated with higher viral load set-point and CD4 cell depletion leading to rapid HIV disease progression. These findings impact on the design of HIV prevention interventions to prevent onward transmission.



CAPRISA's Research pharmacist, **Ms Alicia Desmond** (left), was awarded a Master of Pharmacy *cum laude* degree for her research that evaluated adherence measures in infants receiving daily Nevirapine suspension for the prevention of mother-to-child transmission of HIV and **Dr Nivashnee Naicker** (right) received her Masters for her research on predictors of HIV acquisition in high risk women in Durban, South Africa.





## Scientific papers published in 2015

- 22\* **Abdool Karim Q, Dellar RC, Bearnot B, Werner L, Frohlich JA, Kharsany AB, Abdool Karim SS.** HIV-Positive Status Disclosure in Patients in Care in Rural South Africa: Implications for Scaling up Treatment and Prevention Interventions. *AIDS & Behavior* 2015; 19(2):322-9
- 23 Desmond A, **Moodley D**, Conolly C, Castel S. Evaluation of Adherence Measures in HIV exposed infants receiving daily Nevirapine Prophylaxis for PMTCT. *BMC Paediatrics*. 2015, 15:23 doi:10.1186/s12887-015-0340-9
- 24 Joag VR, **McKinnon L**, Liu J, Kidane ST, Yudin MH, Nyanga B, Kimwaki S, Besel KE, Obila JO, Huibner S, Oyugi JO, Arthos J, Anzala O, Kimani J, Ostrowski MA, the Toronto HIV Research Group, Kaul R. Identification of preferential CD4+ T cell targets for HIV infection in the cervix. *Mucosal Immunology* 2015; doi:10.1038/mi.2015.28
- 25 **Masson L, Passmore JA, Liebenberg LJ, Werner L, Baxter C**, Arnold KB, Williamson C, Little F, **Mansoor LE, Naranbhai V**, Lauffenburger DA, Ronacher K, Walzl G, **Garrett NJ**, Williams BL, Couto-Rodriguez M, Hornig M, Lipkin WI, **Grobler A, Abdool Karim Q, Abdool Karim SS.** Genital inflammation and the risk of HIV acquisition in women. *Clinical Infectious Diseases* 2015 Apr 21. pii: civ298
- 26 O'Donnell M, Pillay M, Pillay M. **Werner L**, Master I, Wolf A, Mathema B, Coovadia Y, Mlisana K, Horsburgh R, **Pa-dayatchi N.** Primary capreomycin resistance is common, and associated with early mortality in extensively drug-resistant tuberculosis (XDR-TB) patients in KwaZulu-Natal, South Africa. *JAIDS* 2015; doi: 10.1097/QAI.0000000000000650

\*continuation from previous newsletter

## Scientific Reviews

Abstracts submitted for review		Manuscripts submitted for review		Ancillary studies submitted for review	
Total#	Cumulative <sup>^</sup>	Total#	Cumulative <sup>^</sup>	Total#	Cumulative <sup>^</sup>
0	326	1	208	1	58

# for month, <sup>^</sup> since committee initiation

## Conference & Workshop Reminders

Conference	Dates	Deadlines			Website
		Abstracts	Registration		
International Conference on HIV and AIDS - London, United Kingdom	25-26 May 2015	25 Nov 2014	25 Jan 2015		<a href="https://www.waset.org/conference/2015/05/london/ICHA">https://www.waset.org/conference/2015/05/london/ICHA</a>
7th South African AIDS Conference - Durban, South Africa	9-12 Jun 2015	20 Jan 2015	22 May 2015		<a href="http://www.saaid.co.za/">http://www.saaid.co.za/</a>
8th IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2015) - Vancouver, British Columbia, Canada	19-22 July 2015	27 Jan 2015	25 Feb 015		<a href="http://www.ias2015.org/">http://www.ias2015.org/</a>
46 <sup>th</sup> Union World Conference on Lung Health - Cape Town, South Africa	2-6 Dec 2015	24 Apr 2015	20 Aug 2015		<a href="http://capetown.worldlunghealth.org/">http://capetown.worldlunghealth.org/</a>
World STI & HIV Congress - Brisbane, Australia	13-16 Sept 2015	13 April 2015	31 August 2015		<a href="http://www.worldsti2015.com/ehome/index.php?eventid=91027&amp;">http://www.worldsti2015.com/ehome/index.php?eventid=91027&amp;</a>
International Conference on AIDS & STI in Africa (ICASA) - Hammamet, Tunisia	8-13 Nov 2015	May 2015	29 Oct 2015		<a href="http://icasa2015tunisia.org/">http://icasa2015tunisia.org/</a>



CAPRISA hosts a DST-NRF Centre of Excellence in HIV Prevention



CAPRISA is the UNAIDS Collaborating Centre for HIV Research and Policy



CAPRISA hosts a MRC HIV-TB Pathogenesis and Treatment Research Unit

Partner institutions:



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Scientific Advisory Board: C Hankins (Chair) • F Abdullah • F Barre-Sinoussi • SM Dhlomo • HL Gabelnick • P Godfrey-Faussett • FG Handley • R Hoff • Y Pillay • T Quinn

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