

## SAIS NEWSLETTER JULY 05<sup>th</sup>, 2019

Dear SAIS members,

Below, please find this week's newsletter.

Please don't forget to send me any info you may have on funding opportunities, meetings, workshops and/or conferences, so I can post it on the SAIS LinkedIn page. Additionally, if you are recruiting/hiring, I am more than happy to advertise it on LinkedIn and in the newsletter.

If there are any specific topics that I don't usually include in the newsletters, yet you would like to read about (such as allergies, immunotherapy, etc'), please let me know by email, so I can include links to publications and meetings related to these topics.

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### FUNDING CALLS, CONFERENCES, WEBINARS and ANNOUNCEMENTS

#### **Cell Symposia - Neuro-Immune Axis: Reciprocal Regulation in Development, Health, and Disease - 22-24 September - Long Beach, CA, USA**

There is still time to register - early registration deadline: **July 19**.

<http://www.cell-symposia.com/neuroimmunology-2019/default.asp>.

#### **Reminder: third round of IMPRINT public engagement grants - deadline approaching**

Public engagement grants of up to £15.000 per project will be available to IMPRINT members to help raise public awareness for maternal and neonatal immunisation. Submission deadline is **17 July**, 3 pm GMT. For more information, please visit <https://imprint-network.co.uk/funding/>.

#### **Establishing a robust 37-marker mass cytometry assay for deep single-cell immune profiling of whole blood - Labroots Webinar - July 24 - 08:00 AM PDT**

Mass cytometry (CyTOF<sup>®</sup>) is a powerful approach to characterize the immune composition of complex biological specimens and gain insights into immune correlates of disease. Successful large-scale CyTOF immune monitoring studies require several important considerations, ranging from panel design to data analysis. In this webinar, we describe our development and optimization of a 37-marker lyophilized antibody panel to profile whole blood samples in a multi-site paediatric allergy immune monitoring study. <https://www.labroots.com/webinar/establishing-robust-37-marker-mass-cytometry-assay-deep-single-cell-immune-profiling-blood>.

#### **Diagnosis and management of viral infections in the transplant population - Labroots Webinar - July 17 - 09:00 AM PDT**

Learning Objectives: Define the potential clinical manifestations of infection with CMV, EBV and BK virus in the transplant population; Review the available laboratory methods that are used in the diagnosis and management of viral infections among transplant recipients; Discuss the advantages and limitations of various assays and highlight key considerations for their appropriate use and interpretation; Introduce future tests that may allow providers to predict a patient's response to certain antiviral medications.

<https://www.labroots.com/webinar/diagnosis-management-viral-infections-transplant-population>.

**The diagnosis matters: elevating the standard of care for women impacted by vaginitis and vaginosis - Labroots Webinar - July 25 - 09:00 AM PDT**

Learning Objectives: Describe the complexities and challenges of diagnosing vaginitis and vaginosis due to symptom overlap, co-infection rates, and current guidelines Understand various diagnostic testing options currently available for vaginitis and vaginosis and the benefits and limitations of each Review the impact molecular diagnostic modalities will have on vaginitis and vaginosis diagnostics into the future.

To register - <https://www.labroots.com/ms/webinar/diagnosis-matters-elevating-standard-care-vaginitis-vaginosis>.

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**PUBLICATIONS and INTERESTING READS:**

**Ruminococcus gnavus, a member of the human gut microbiome associated with Crohn's disease, produces an inflammatory polysaccharide (open access)**

<https://www.pnas.org/content/116/26/12672>.

**Knight on the Microbiome**

See the University of California, San Diego's Rob Knight give a TED Talk on the emerging importance of our microbial hitchhikers: <https://www.the-scientist.com/videos/knight-on-the-microbiome-65994>.

**Cell Trends in Immunology editorial special issue: New Advances in Neutrophil Immunity:**

- **Neutrophils are on a roll:** [https://www.cell.com/trends/immunology/fulltext/S1471-4906\(19\)30120-6](https://www.cell.com/trends/immunology/fulltext/S1471-4906(19)30120-6).

- **Neutrophil diversity in health and disease:** [https://www.cell.com/trends/immunology/fulltext/S1471-4906\(19\)30101-2](https://www.cell.com/trends/immunology/fulltext/S1471-4906(19)30101-2).

- **The neutrophil life cycle:** [https://www.cell.com/trends/immunology/fulltext/S1471-4906\(19\)30102-4](https://www.cell.com/trends/immunology/fulltext/S1471-4906(19)30102-4).

- **Biological roles of neutrophil-derived granule proteins and cytokines:**

[https://www.cell.com/trends/immunology/fulltext/S1471-4906\(19\)30105-X](https://www.cell.com/trends/immunology/fulltext/S1471-4906(19)30105-X).

**HPV vaccination raises hope for complete eradication of cervical cancer, scientists say**

<https://www.ibtimes.com/hpv-vaccination-raises-hope-complete-eradication-cervical-cancer-scientists-say-2803381>.

**Evolution of subgenomic RNA shapes dengue virus adaptation and epidemiological fitness (open access)**

[https://www.cell.com/iscience/fulltext/S2589-0042\(19\)30156-7](https://www.cell.com/iscience/fulltext/S2589-0042(19)30156-7).

**Ap4A regulates directional mobility and antigen presentation in dendritic cells (open access)**

[https://www.cell.com/iscience/fulltext/S2589-0042\(19\)30182-8](https://www.cell.com/iscience/fulltext/S2589-0042(19)30182-8).

**Lower incidence rate of Type 1 Diabetes after receipt of the rotavirus vaccine in the United States, 2001–2017 (open access)**

<https://www.nature.com/articles/s41598-019-44193-4>.

**Anthropometric, cognitive, and schooling benefits of measles vaccination: Longitudinal cohort analysis in Ethiopia, India, and Vietnam (open access)**

<https://www.sciencedirect.com/science/article/pii/S0264410X19307868?via%3Dihub>.

**PD-L1 expression on nonclassical monocytes reveals their origin and immunoregulatory function (open access)**

<https://immunology.sciencemag.org/content/4/36/eaar3054>.

**Thermal stabilization of viral vaccines in low-cost sugar films (open access)**

"This work presents a simple approach that allows thermo-sensitive vaccines to be converted into thermo-stable vaccines that do not require refrigeration, thus contributing to the improvement of vaccine deployment throughout the world." <https://www.nature.com/articles/s41598-019-44020-w>.

**Medicines made of solid gold to help the immune system**

By studying the effects of gold nanoparticles on the immune cells related to antibody production, researchers at UNIGE, at Swansea University and at the NCCR "Bio-inspired Materials" are paving the way for more effective vaccines and therapies. <https://www.unige.ch/communication/communiqués/en/2019/des-medicaments-en-or-massif/>.

**A neurotoxin that specifically targets Anopheles mosquitoes (open access)**

<https://www.nature.com/articles/s41467-019-10732-w>.

**A meningococcal outer membrane vesicle vaccine with overexpressed mutant FHbp elicits higher protective antibody responses in infant rhesus macaques than a licensed serogroup B vaccine (open access)**

<https://mbio.asm.org/content/10/3/e01231-19>.

**Causes of severe pneumonia requiring hospital admission in children without HIV infection from Africa and Asia: the PERCH multi-country case-control study (open access)**

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30721-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30721-4/fulltext).

**New method reveals how well TB antibiotics reach their targets**

[https://www.crick.ac.uk/news/2019-06-28\\_new-method-reveals-how-well-tb-antibiotics-reach-their-targets](https://www.crick.ac.uk/news/2019-06-28_new-method-reveals-how-well-tb-antibiotics-reach-their-targets) (DOI: 10.1126/science.aat9689).

**Malaria parasites hijack your genes to set up camp inside your liver**

At least 100 human genes are pressed into the parasite's service; represent possible drug targets for early stages of infection. <https://today.duke.edu/2019/06/malaria-parasites-hijack-your-genes-set-camp-inside-your-liver> (DOI: 10.1016/j.chembiol.2019.05.011).

**Africa: Uganda becomes first country in Africa to meet WHO goal of tackling Hepatitis B**

<https://allafrica.com/stories/201906270672.html>.

**The Salzburg statement on vaccination acceptance**

<https://www.tandfonline.com/doi/full/10.1080/10810730.2019.1622611>.

**Airless worms: new hope against drug-resistant parasites**

<http://www.thedonnelycentre.utoronto.ca/news/airless-worms-new-hope-against-drug-resistant-parasites>.

**Innate lymphoid cells in the induction of obesity (open access)**

[https://www.cell.com/cell-reports/fulltext/S2211-1247\(19\)30782-X](https://www.cell.com/cell-reports/fulltext/S2211-1247(19)30782-X).

**Sequential LASER ART and CRISPR treatments eliminate HIV-1 in a subset of infected humanized mice (open access)**

<https://www.nature.com/articles/s41467-019-10366-y>.

**Microbiota-driven tonic interferon signals in lung stromal cells protect from influenza virus infection (open access)**

[https://www.cell.com/cell-reports/fulltext/S2211-1247\(19\)30744-2](https://www.cell.com/cell-reports/fulltext/S2211-1247(19)30744-2).

**Inflammation is the fuel that feeds the cancer flame. So how do we fight back?**

<https://www.weforum.org/agenda/2019/07/inflammation-the-fuel-that-feeds-the-cancer-flame/>.

**JOBS and POSITIONS**



**Research coordinator**  
Based at **Centre for Vaccines and Immunology, NICD**  
1 Modderfontein Road, Sandringham  
**Grant funded position through Wits Health Consortium – 1-year contract, renewable.**  
**Remuneration: approx. R550K per annum**

**Background**  
The Centre for Vaccines and Immunology comprises the National and World Health Organisation Regional Reference Laboratories for acute flaccid paralysis as well as measles and rubella surveillance. Additionally, the centre conducts projects on viral hepatitis, Tuberculosis and other vaccine preventable diseases. Our research focus is immune tolerance and its application to infectious diseases such as Tuberculosis and HIV. A key project is the role of indoleamine 2,3 dioxygenase as a TB biomarker.  
The centre has a cell culture wing, viral culture laboratories, immunology laboratories (LSR Fortessa 18 colour flow cytometer (BD) and 2 Luminex flow cytometers), molecular laboratories with Sanger sequencing, and capacity at the institute for next generation sequencing.

**Key roles and responsibilities**  
The successful candidate will lead grant-funded projects in the unit, optimize laboratory methods, manage grant-funded staff, students and equipment and coordinate sample logistics. Additionally, the candidate will supervise MSc students and contribute to grant and paper writing and academic activities such as journal clubs and seminars. In particular, the successful candidate will coordinate the MRC-SHIP funded 3-year study of IDO as TB biomarker.

**Qualifications and experience**  
PhD in immunology or related discipline, evidence of research output. Teaching and training record advantageous. Grants management advantageous. Preferred skills: real-time PCR, biochemistry, flow cytometry, cell culture.  
Please email CV and cover letter to Dr Melinda Suchard by Monday **22 July**, [melindas@nicd.ac.za](mailto:melindas@nicd.ac.za)

Kind regards

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