

Sabelle Jallow

Centre for Healthcare-Associated Infections, Antimicrobial Resistance and Mycoses (CHARM); A division of The National Health Laboratory Services. 1 Modderfontein Road, Sandringham, Johannesburg, 2131, South Africa.
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Education

PhD [Molecular Virology]

May 2004 – Sept 2008

University of Antwerp (UA)
Institute of Tropical Medicine (ITM)

Belgium

Thesis: Development and application of assays for monitoring drug resistance in **HIV-2** infected patients on antiretroviral therapy

Master of Science in Molecular Biology (Great Distinction)

Sept 2001 – Sept 2003

Free university of Brussels

Belgium

- Thesis: Contributions to the development of HIV-1 drug resistance monitoring assays; taking into account genetic variability. (ITM)
- Class President: 2001-2003

Bachelor of Science in Chemistry (Distinction)

Sept 1993 – Oct 1996

Mount St. Vincent's University

Halifax, NS, Canada

- Major in Chemistry, Minor in Biology and Mathematics.
- Sister Patricia Mullins Award for Excellence in Chemistry
- Dr. E. Margaret Fulton Scholarship for Academic Achievement (Canada, 1994 & 1995)
- Dean's List (average >80% with no subject below 70%): 1994, 1995 & 1996

Professional Experience

Nov 2020 – Present

National Institute for Communicable Diseases (NICD-NHLS)

Johannesburg, South Africa

Principal Medical Scientist and Lecturer (University of Witwatersrand)

Centre for Healthcare-Associated Infections, Antimicrobial Resistance & Mycoses (CHARM)

- Laboratory manager (CHARM molecular laboratory): Overall supervision and responsibility of the Centre's molecular laboratory to ensure compliance with the mandate of the National Institute for Communicable Diseases (NICD)
- Lead a team of scientists to develop a research agenda related to diseases/ conditions of interest in the Centre; publish and present research findings within the NHLS and at scientific congresses
- Apply specialized knowledge in molecular epidemiology, bacteriology and mycology to perform surveillance, outbreak response and diagnostics for healthcare and community-associated bacterial and fungal infections
- Establish processes to ensure optimal diagnosis, surveillance and research suitable to national reference laboratories for antimicrobial resistance and mycology and to understand the characteristics of bacteria and fungi causing diseases in community and hospitals

- Improve the design and functioning of the laboratory for the Centre with an appropriate spectrum of laboratory tests for assessing and carrying out appropriate public health-focused research into bacterial and fungal infections
- Institute, design and manage research programs to assess impact of diseases of interest, including grant applications
- Provide expert advice and guidance for the Centre to ensure the proper management of such infections/diseases and outbreaks
- Provide expert advice to internal (NICD and NHLS) and external (Department of Health, WHO, etc.) stakeholders
- Provide teaching and supervision to registrars, scientists and others in the Centre and at NICD in order to increase capacity in the Institute
- Be a member of expert committees related to advising and guiding the Department of Health and other professionals on issues related to above.

Nov 2017 – Oct 2020

National Institute for Communicable Diseases (NICD-NHLS)

Johannesburg, South Africa

**Senior Medical Scientist (WHO-funded position)
Centre for Vaccines and Immunology (CVI)**

- Sequencing of polioviruses under high containment levels to facilitate appropriate actions in light of polio eradication
- Basic and applied research to improve knowledge, provide conceptual thinking and understanding of health related issues
- Research and Development to assess the appropriateness of tests, to improve existing laboratory tests and to develop new tests and techniques to optimise and improve the provision public health surveillance
- Quality Management of the laboratory which involves the implementation and monitoring of systems to ensure accurate and reliable results
- Application of specialised knowledge to diagnose disorders, disease and pathogens or vectors of pathogens, and where necessary provide consultation, so that appropriate treatment or control methods can be provided/implemented
- Supervision of Technicians, Masters and PhD students. Teaching/Lecturing
- Grant and Ethics applications. Dissemination of results via publications, conferences and seminars

Oct 2012 – Oct 2017

University of Witwatersrand

Johannesburg, South Africa

Post doctoral Scientist (Public health: Vaccines)

- Research into vaccine preventable diseases
- Research on the impact of HIV-infection on Transfer of antibodies from mother to infant
- Research on the immunological characteristics of HIV-exposed and uninfected infants
- Design/ development/ implementation of molecular, immunological and virological assays
- **Supervision of Technicians, Masters and PhD students. Teaching/Lecturing**
- Grant and Ethics applications. Dissemination of results via publications, conferences and seminars

HIV Immunologist (West Africa Collaboration)

- **Principle Investigator** and **grant recipient of EDCTP Senior fellowship** for NK cell functional response project.
- **Grant and staff management**
- Measure immunogenicity of a series of HIV specific peptide pools for ability to elicit recall responses of NK activity and compare them to adaptive responses in HIV vaccinated individuals and at risk populations.
- Design host genetic studies to look at genetic signatures in responders
- Exploit the opportunities for collaborative research within the Unit and through collaborations with external institutions. The West African collaboration has strong collaborative links with London School of Hygiene and Tropical Medicine and African institutions such as LBV in Senegal and INASA in Guinea Bissau.
- Ensure all appropriate aspects of quality assurance relating to immunological studies are addressed effectively.
- Contribute to and develop independent grant proposals and new research interests.
- Contribute to the training and supervision of research students.
- Disseminate the findings of their research locally and internationally and work to promote public understanding of immunological research.

Mar 2009 – July 2012

University of Oxford

Oxford, England

Post doctoral Scientist

- Analysis of Trim5 α polymorphisms in a unique HIV-2 cohort (**Molecular Genetics**)
- Cellular immunological studies to analyse the specificity, function and HLA restriction of T-cell responses to the HIV-2 capsid
- Antigen processing studies to determine how different viral sequences are processed and presented to the immune system
- **Supervision of medical, masters and PhD students. Grant and Ethics applications**

Feb 2004 – Feb 2009

MRC Laboratories

Fajara, The Gambia

Higher Scientific Officer

- **Principle investigator of the HIV drug resistance study at MRC**
- Design, Development, assessment and implementation of new assays to measure HIV drug resistance
- Research into innate resistance as a result of natural polymorphisms
- Sequence generation, and drug resistance analysis.
- Development of a HIV-2 sequence and drug-resistance mutation database

Sept 1999 – Sept 2001

MRC Laboratories

Fajara, The Gambia

Scientific Officer

- Research into MHC associations with diseases of interest (HIV, Malaria, TB, Measles)
- **Laboratory manager:** HLA Typing Laboratory
- Analysis and Data Management of all DNA Haplotyping Results
- Optimisation of a sequence specific primer PCR-based HLA typing using 144 primers.
- Flow cytometry: CD4 T-cell, CD45RO & CD45RA count to monitor HIV disease progression.

Management experience	<ul style="list-style-type: none"> ▪ Laboratory manager: HLA Typing Laboratory MRC, The Gambia 1999-2001 ▪ Principle investigator of the HIV drug resistance study MRC, The Gambia 2004-2009 ▪ Principle Investigator and grant manager (EDCTP Senior fellowship) for NK cell functional response project MRC UK post, 2012-2014 ▪ Laboratory manager: CHARM Molecular Laboratory NICD, South Africa 2020- Present
Lecturing & student supervision	<ul style="list-style-type: none"> ▪ Lecturer, Immunology (2016 -2021); Class: Honours in Molecular Medicine I. University of Witwatersrand, Faculty of Health Sciences. Topic: Vaccines and Immune tolerance ▪ Lecturer, Immunology (2016 - 2021); Class: Honours in Molecular Medicine year III University of Witwatersrand, Division of Molecular Medicine, Faculty of Health Sciences Topic: Innate and Adaptive Immunity ▪ Lecturer, Immunology (2019 - 2021); Class: MSc in Vaccinology (African Leadership in Vaccinology Expertise -ALIVE). University of Witwatersrand, School of Pathology, Faculty of Health Sciences. Topic: Innate Immunity (Pattern recognition, inflammation, etc) ▪ Supervision of Technicians, MMed students, BSC honours, MSc and PhD students
Reviewer	<p>Reviewer for international journals including Clinical Infectious Diseases, Journal of Infectious Diseases, AIDS, Infectious Diseases, Clinical Medicine Reviews in Therapeutics, HIV Medicine, Antiviral Therapy.</p> <p>Reviewer for Grants, MSc protocols and conference abstracts.</p> <p>Examiner: MSc research protocols in the School of Pathology, WITS</p> <p>Expert Reviewer for grants and fellowships: European and Developing Countries Clinical Trials Partnership (EDCTP) and Africa Research Excellence Fund (AREF).</p>
Memberships	<p>Registration as Medical Scientist with Health Professions Council of South Africa – MS0003638</p> <p>Registration as Professional Natural Scientist with South African Council for Natural Scientific Professions– 115302</p> <p>Member: European and Developing Countries Clinical Trials Partnership (EDCTP) HIV working group</p> <p>Member: European and Developing Countries Clinical Trials Partnership (EDCTP) and Africa Research Excellence Fund (AREF) expert reviewing committee.</p> <p>Member: South African Immunology Society (SAIS); International Society for Infectious Diseases (ISID)</p>
International rating	<p>ORCID ID: 0000-0002-4436-5517 Google scholar (H-index-11, i10-index-12, citations 492)</p> <p>Research Gate RG Score : 25.97 (publication 99.92%) >80% percentile of RG members</p>
Grants & Awards	<ul style="list-style-type: none"> ▪ EDCTP Senior Fellowship (Dec 2012 - Dec 2014) ▪ ITM-DGOS PhD studentship (Belgium, 2004-2008) ▪ VLIR Research Back Pack grant (Belgium, 2005) ▪ Flemish Interuniversity Council Msc Scholarship (Belgium, 2001-3) ▪ Sr. Patricia Mullins Award for Excellence in Chemistry (Canada, 1994) ▪ Dr. E. Margaret Fulton Scholarship for Academic Achievement (Canada, 1994 & 1995)
Publications	<ol style="list-style-type: none"> 1. Ibrexafungerp: A First-in-Class Oral Triterpenoid Glucan Synthase Inhibitor. Sabelle Jallow and Nelesh P. Govender. J. Fungi 2021;7(3):163; https://doi.org/10.3390/jof7030163. 2. Clearance of Immunodeficiency-associated Vaccine-derived Poliovirus Infection With Pocopavir. Copelyn J, Hincks JR, Wilmshurst JM, Petersen W, Howard W, Jallow S, Moonsamy S, Seakamela L, Suchard M, Collett MS, Eley B <i>Pediatr Infect Dis J</i> 2020;39:435–437. 3. Placental Transfer of Respiratory Syncytial Virus Antibody among HIV-Exposed, Uninfected Infants. Patel SM, Jallow S, Boiditswe S, Madhi SA, Feemster KA, Steenhoff AP, Arscott-Mills T, Muthoga C, Ajibola

4. **Accelerated immunodeficiency-associated vaccine derived poliovirus serotype 3 (iVDPV3) sequence evolution rate in a 3-month old boy with X-linked agammaglobulinemia and perinatal HIV exposure.** Sabelle Jallow, Jo M. Wilmshurst, Wayne Howard, Julie Copelyn, Lerato Seakamela, Koon-Wing Chan, Robert Sebunya, Rosinah Sibiyi, Heleen Du Plessis, Charlene Jacobs, Natacha Berkowitz, Lucille Blumberg, Kerrigan McCarthy, Elizabeth Maseti, Mercy Kamupira, Nonhlanhla Dlamini, Nicky Gumede Ousmane M. Diop, Yu Lung Lau, Shelina Moonsamy, Brian Eley, Melinda Suchard. Clin Infect Dis. 2019 Jun 18;69(1):151-154.
5. **Impaired transplacental transfer of respiratory syncytial virus (RSV) neutralizing antibodies in HIV-infected compared to HIV-uninfected pregnant women.** Jallow S, Agosti Y, Kgagudi P, Vandecar M, Cutland CL, Simões EAF, Nunes MC, Suchard MS, Madhi SA. Clinical Infectious Diseases, Volume 69, Issue 1, 1 July 2019, Pages 151–154
6. **Possible implications of maternal HIV infection for increasing measles susceptibility in young infants.** Sabelle Jallow & Shabir A. Madhi. Future Virology, 2018, 13(6), 371-373
7. **Maternal HIV infection associated with reduced transplacental transfer of measles antibodies and increased susceptibility to disease.** Sabelle Jallow, Clare L. Cutland, Alexis K. Masbou, Peter Adrian, Shabir A. Madhi. Journal of Clinical Virology, 2017; 94 p50–56.
8. **Immunogenicity of 13-valent pneumococcal conjugate vaccine among children with underlying medical conditions.** Sabelle Jallow, Shabir A. Madhi, Metsekae Richard Madimabe, Nadia van Niekerk, Kiran Parbhoo, Fatima Moosa, Kebashni Thandrayen, Nosisa Sipambo, Avy Violari, Udai Kala, Karen Petersen, Sanushka Naidoo, Charl Verwey, David Paul Moore and Marta C. Nunes. Vaccines. 2017 Aug 3;35(34):4321-4329
9. **Pneumococcal conjugate vaccine in HIV-infected and HIV-exposed, uninfected children.** Jallow S, Madhi SA. Expert Rev Vaccines. 2017 May;16(5):453-465
10. **The presence of prolines in the flanking region of an immunodominant HIV-2 gag epitope influences the quality and quantity of the epitope generated.** Sabelle Jallow, Aleksandra Leligdowicz, Holger B. Kramer, Clayton Onyango, Matthew Cotten, Cynthia Wright, Hilton C. Whittle, Andrew McMichael, Tao Dong, Benedikt M. Kessler and Sarah L. Rowland-Jones. Eur. J. Immunol. August 2015, Volume 45 (8): 2232–2242.
11. **HLA correlates of long-term survival in vertically infected HIV-1-positive adolescents in Harare, Zimbabwe.** Shepherd BL, Ferrand R, Munyati S, Folkard SS, Boyd K, Bandason T, Jallow S, Rowland-Jones S, Yindom L. AIDS Res Hum Retroviruses. 2015 May 1; 31(5): 504–507.
12. **Phylogeographical footprint of colonial history in the global dispersal of human immunodeficiency virus type 2 group A.** Faria NR, Hodges-Mameletzis I, Silva JC, Rodés B, Erasmus S, Paolucci S, Ruelle J, Pieniazek D, Taveira N, Treviño A, Gonçalves MF, Jallow S, Xu L, Camacho RJ, Soriano V, Goubau P, de Sousa JD, Vandamme AM, Suchard MA, Lemey P. J Gen Virol. 2012 Apr;93(Pt 4):889-99.
13. **Antiretroviral Therapy for HIV-2 Infection: Recommendations for Management in Low-Resource Settings.** Kevin Peterson, Sabelle Jallow, Sarah L Rowland-Jones, Thushan I de Silva. AIDS research and treatment. Feb 2011: 463704
14. **Virological response to highly active antiretroviral therapy in patients infected with human immunodeficiency virus type 2 (HIV-2) and in patients dually infected with HIV-1 and HIV-2 in the Gambia and emergence of drug-resistant variants.** Sabelle Jallow, Abraham Alabi, Ramu Sarge-Njie, Kevin Peterson, Christopher Akolo, Akum Aveika, Hilton Whittle, Guido Vanham, Sarah Rowland-Jones and Wouter Janssens. J Clin Microbiol. Jul 2009; 4 (7): 2200-8.
15. **Presence of a Multidrug-Resistance Mutation in an HIV-2 Variant Infecting a Treatment-Naive Individual in Caio, Guinea Bissau.** Sabelle Jallow, Tim Vincent, Aleksandra Leligdowicz, Thushan De Silva, Carla Van Tienen, Abraham Alabi, Ramu Sarge-Njie, Peter Aaby, Tumani Corrah, Hilton Whittle, Assan Jaye, Guido Vanham, Sarah Rowland-Jones and Wouter Janssens. Clin. Infect. Dis. Jun 2009 15;48(12):1790-3.
16. **OPINION PIECE: A Call for Randomized Controlled Trials of Antiretroviral Therapy for HIV-2 Infection in West Africa.** Geoffrey S. Gottlieb, Serge-Paul Eholié, John N. Nkengasong, Sabelle Jallow, Sarah Rowland-Jones, Hilton C. Whittle and Papa Salif Sow. AIDS; Oct. 2008; 22(16):2069-72.
17. **Optimization of the Oligonucleotide Ligation Assay (OLA), a Rapid and Inexpensive Test for Detection of HIV-1 Drug-Resistance Mutations, for Non-B Subtypes.** Ingrid A. Beck, Claudia Crowell, Robin Kittoe, Helba Bredell, Molefe Machaba, Carolyn Williamson, Wouter Janssens, Sabelle Jallow, Guido van der Groen, Yiming Shao Mini Jacob, NM Samuel, Ivette Lorenzana de Rivera, Nicole Ngo-Giang-Huong, Sharon Cassol, George Alemnji, and Lisa M. Frenkel. J. Acquir Immune Defic Syndr. Aug 2008; 48 (4) :418-27.
18. **Development and evaluation of an Oligonucleotide Ligation Assay for the detection of drug resistance associated mutations in the HIV-2 pol gene.** Jallow S; Kaye S; Schutten M; Brandin E; Albert J; McConkey

S.J; Corrah T; Whittle H; Vanham G; Rowland-Jones S; Janssens W. J. Clin. Microbiol.; May 2007, 45(5):1565-1571.

19. **Virological and immunological response to Combivir and emergence of drug resistance mutations in a cohort of HIV-2 patients in The Gambia.** Jallow S; Kaye S; Alabi A; Aveika A; Sarge-Njie R; Sabally S; Corrah T; Whittle H; Vanham G; Rowland-Jones S; Janssens W; McConkey S.J. AIDS; June 26, 2006; 20(10):1455-1458.

20. **Vigorous but Short-Term Gamma Interferon T-Cell Responses against a Dominant HLA-A*2 –Restricted Measles Virus Epitope in Patients with Measles.** Jaye A, Herbert CA, Jallow S, Atabani S, Klein MR, Hoogerhout P, Kidd M, Van Els CACM, Whittle HC. J of Virology 2003; 77:5014-5016

Books

1. Sabelle Jallow & Shmona Simpson (2015). **TRIM5 Alpha and HIV-2 Infection**. In: Hope T., Stevenson M., Richman D. (eds) Encyclopedia of AIDS. Springer, New York, NY. DOI 10.1007/978-1-4614-9610-6_47-1
2. Shmona Simpson & Sabelle Jallow (2016). **Interactions Between HIV-2 and Host Restriction Factors**. In: Hope T., Stevenson M., Richman D. (eds) Encyclopedia of AIDS. Springer, New York, NY. DOI 10.1007/978-1-4614-9610-6_41-2

Community engagement

1. **New vaccines on the horizon.** Sabelle Jallow. Immunise Today 2015; 6 (3): 4
2. **Ebola Vaccine breakthrough and new vaccines on the horizon.** Sabelle Jallow. Infectious Diseases Updates 2016; 5 (2): 4-5

Skills

- **Design, development and optimisation of Molecular Diagnostic techniques**
- Primer, probe and Polymerase Chain Reaction (PCR) design
- DNA & RNA extraction
- Cell culture, virus isolation and drug assays
- **Virus neutralisation Assays** and Plaque assays
- **Sequence generation and analysis**
- HLA genotyping using sequence specific primers
- HIV drug resistance assays
- **Development of ELISA and Oligonucleotide Ligation Assays**
- Cell analysis by Flow Cytometry
- Generation and propagation of T-Cell clones
- Cloning and generation of recombinant viruses
- **Experience working with Category II and III laboratories**
- **Training in Advanced Biological risk mitigation and biological containment**

Conferences International

1. Oral presentation - Oral presentation - **Eradicating Polio: What is the role of the NHLS?**. Sabelle Jallow. 3rd Pathology Research and Development Congress (PathReD) 2019 18th-21st July 2019, Johannesburg, South Africa.
2. Oral presentation - **Accelerated immunodeficiency-associated vaccine derived poliovirus type 3 (iVDPV3) sequence evolution rate in a 3-month old boy with X-linked agammaglobulinemia and perinatal HIV exposure.** Sabelle Jallow, et al. VIIIth South African Immunological Society Congress. 18-20 June 2019; Umhlanga, KZN, South Africa.
3. Invited speaker - **Ex-vivo stimulation with HIV-1-specific antigens support the existence of NK-cell recall responses.** Sabelle Jallow, Moustapha Mbow, et al. HIV Research for Prevention, Partnering for Prevention (HIVR4P). 17-20 October 2016. Chicago, Illinois, USA.
4. Poster presentation Efficient generation and processing of immunodominant epitopes. Sabelle Jallow, Holger Kramer, Aleksandra Leligdowicz, Cynthia Wright, Benedikt Kessler, Tao Dong and Sarah Rowland-Jones. 5th meeting of the South African Immunology Society. 6-9 March 2016; Glenburn Lodge, Muldersdrift, Gauteng.
5. Poster presentation - **Natural Killer cells of HIV-1 exposed but uninfected subjects exhibit recall responsiveness to HIV-1 peptides.** Moustapha Mbow, Sabelle Jallow, Cheikh T. Ndour, Souleymane Mboup, Martin Goodier, Eleanor Riley, Assan Jaye. 14th Meeting of the Society for Natural Immunity. 18 – 22 September 2013; Heidelberg, Germany.
6. Oral presentation - **Efficient generation of an immunodominant HIV-2 gag epitope DRFYKSLRA is dependent on the proline residues in flanking sequence** Sabelle Jallow, Holger Kramer, Aleksandra Leligdowicz, Cynthia Wright, Benedikt Kessler, Tao Dong and Sarah Rowland-Jones. 4th Symposium of Infectious Diseases in Africa: "Immune escape from HIV-1, Malaria and TB: implications for vaccine design" & 5th African Flow Cytometry Workshop: Measurement of Immune Responses. 30 August-6 September 2013; Capetown, South Africa.

7. Oral presentation - **Correlates of protection in HIV-2 infection: Generation of an Immunodominant HIV-2 gag epitope.** Sabelle Jallow. *West African Platform for HIV Intervention Research (WAPHIR)*; 5-7 April, 2012; Saly, Senegal.
8. Oral presentation - **Efficient generation of an immunodominant HIV-2 gag epitope DRFYKSLRA is dependent on the proline residues in flanking sequence.** S Jallow, Vanham G; Rowland-Jones S and Janssens W. *African International Conference on Immunity*. 3-7 November 2011, Victoria Falls, Zimbabwe.
9. Poster - **Efficient generation of an immunodominant HIV-2 gag epitope DRFYKSLRA is dependent on the proline residues in flanking sequence.** Sabelle Jallow, Holger Kramer, et al. *Keystone Symposia: HIV Biology and Pathogenesis (A6)*. 12 -17 January; 2010. Santa Fe, New Mexico, USA.
10. Oral presentation - **Development and Application of Assays for Monitoring Drug Resistance in HIV-2 Infected Patients on Antiretroviral Therapy.** S Jallow, Vanham G; Rowland-Jones S and Janssens W. *Oxford Tropical Network Meeting*. 15-17 September 2009; Oxford, UK.
11. Oral presentation - **HIV-2 Therapy and Resistance: The Gambian experience.** S Jallow, Alabi A., et al. *UK-Ghana Royal Society HIV workshop*; April 28-30, 2008; London, UK.
12. Poster - **Development of the Oligonucleotide Ligation Assay for the Detection of the Q151M Mutation Associated with Multi-Drug Resistance to the Nucleoside Reverse Transcriptase Inhibitors in HIV-2.** S Jallow, Kaye S, et al. *5th European HIV Drug Resistance Workshop*, March 28 – 30, 2007; Cascais, Portugal.
13. Poster - **Development and evaluation of the oligonucleotide ligation assay (OLA) for the detection of drug resistance mutations in HIV-2 patients on antiretroviral therapy.** Jallow S, Kaye S, et al. *Retrovirology* 2006, 3 (Suppl 1):P29 (21 December 2006) [2006 *International Meeting of The Institute of Human Virology*; Nov 17-21, 2006. Baltimore, USA]
14. Poster - **Virological Response to Highly Active Antiretroviral Therapy (HAART) and the Emergence of Drug-Resistant Mutations in HIV-2 and HIV-1/HIV-2 Dually Infected Patients in The Gambia.** Jallow S; Alabi A; et al. *7th Annual Symposium on Antiviral Drug Resistance: Targets and Mechanism*. Nov. 12-15, 2006; Chantilly, Virginia, USA.
15. Poster - **Development of the Oligonucleotide Ligation Assay for the Detection of the M184V Mutation Associated with Resistance to Lamivudine in HIV-2.** S Jallow, S Kaye, M Schutten, S Rowland-Jones, W Janssens. *International Symposium on HIV & Emerging Infectious Diseases*. Jun 21-23, 2006; Toulon France.
16. Poster presentation - **Development and evaluation of the Oligonucleotide Ligation Assay for the detection of drug resistance mutations in HIV-2 patients on antiretroviral therapy.** Sabelle Jallow, Steve Kaye, et al. *11th annual meeting of Institute of Human Virology*; November 17-21, 2006; Baltimore, USA.
17. Oral presentation - **Anti-Retroviral Therapy (ART) Monitoring and the Development of the Oligonucleotide Ligation Assay for Detecting Critical Drug-resistant Mutations in HIV-2 Patients in Preparation of the Global Fund Initiative in The Gambia.** S Jallow, S Kaye, et al. *10th annual meeting of Institute of Human Virology*; 29 Aug - 2 Sept 2005; Baltimore, USA.
18. Oral presentation - **Anti-Retroviral Therapy (ART) Monitoring and the Development of the Oligonucleotide Ligation Assay for Detecting Critical Drug-resistant Mutations in HIV-2 Patients in Preparation of the Global Fund Initiative in The Gambia.** S Jallow, S Kaye, et al. *10th annual meeting of Institute of Human Virology*; 29 Aug - 2 Sept 2005; Baltimore, USA.

Referees

Dr Assan Jaye, Viral diseases programme, MRC Laboratories. Fajara, PO Box 273. Banjul, The Gambia. +220 9910720; ajaye@mrc.gm

Prof. Guido Vanham, Dept. Microbiology, Institute of Tropical Medicine, Nationalestraat 155, Antwerp 2000. Belgium. +32 3247 6228, gvanham@itg.be

Prof Sarah Rowland-Jones. University of Oxford. Weatherall institute of Molecular Medicine. John Radcliffe Hospital. Human Immunology Unit. Headington Oxford. OX3 9DS. +441865 222316, sarah.rowland-jones@ndm.ox.ac.uk