



IUIS-FAIS-SAIS IMMUNO-SOUTH AFRICA

ONE HEALTH – ZOONOSIS AND COMPARATIVE IMMUNOLOGY

Future Africa Campus – University of Pretoria,

Pretoria - South Africa

30 September – 4 October 2024

(with welcoming function on Sunday 29 September 2024)

COURSE REPORT

INTRODUCTION

The IUIS-FAIS-SAIS Immuno-South Africa 2024 course took place from 29 September to 4 October 2024 at the Future Africa Campus, University of Pretoria, South Africa. Organized by the International Union of Immunological Societies (IUIS) Education Committee, in collaboration with the Federation of African Immunological Societies (FAIS) and the South African Immunology Society (SAIS), the course focused on “One Health – Zoonosis and Comparative Immunology.”

This training program aimed to provide graduate students, post-doctoral fellows, and early-career scientists with an in-depth understanding of immune responses to zoonotic infections, integrating the One Health approach. The course covered critical topics such as bacterial, viral, and parasitic zoonotic infections, vaccine and immune diagnostics, and equity, diversity, and inclusion in immunology.

A six-week online pre-course was conducted via Immunopaedia, offering participants foundational knowledge through self-paced modules, including videos, case studies, quizzes, and assignments. The pre-course ensured that all attendees had a common baseline of understanding before engaging in the in-person training. Additionally, a structured grant writing program was included, featuring pre-course virtual sessions and in-person mentored group sessions, culminating in group presentations judged by faculty experts.

The in-person sessions fostered an interactive learning environment, incorporating lectures by distinguished faculty, group work, poster elevator pitches, and roundtable discussions. Participants engaged with faculty not only in formal sessions but also through informal discussions, strengthening professional networks and mentorship opportunities. This was greatly facilitated by the arrangement for all delegates to stay at the same venue for the duration of the course.

The education program culminated in the awarding of 25 certificates of attendance to delegates who successfully completed the 6-weeks online and 1 week in-person course on One Health – Zoonosis and Comparative Immunology.

This report presents an overview of pre-course and in-person activities, participant feedback, summarizing responses on the course content, faculty selection, teaching methodologies, pre-course engagement, and overall impact on career development. It also highlights challenges faced and key lessons learned, offering insights for future improvements to enhance the effectiveness of similar training programs.



ORGANISING COMMITTEE AND SECRETARIATE

Chairperson:

- Professor Clive Grey

International organisers:

- IUIS Education Committee: Professors Clive Gray, Dieter Kabelitz, Oliver Boyer, Roslyn Kemp
- IUIS- VIC: Professors Alejandra V Capozzo, Claire Rogel-Gaillar, Yolandy Lemmer

Local organisers:

- Professors Theresa Rossouw, Chris Marufu, Ivy Tshilwane and Dr Sven Parson

Course convenors:

Organising team: Professor Theresa Rossouw, Dr Charlme Blignaut and Lindiwe Mashologu

DELEGATES

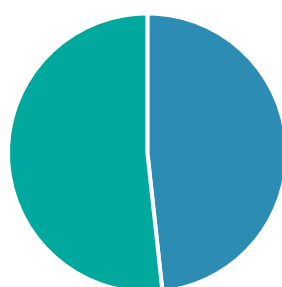
The application process for the “Immuno-South Africa” workshop closed on 30 June 2024, and attracted a diverse pool of candidates engaged in a wide range of fields. It was initially envisaged that 50 delegates would be selected but due to the current exchange rates and exuberant cost of air travel in Africa and from South America the number of candidates to be selected was cut to 30. The workshop, targeting graduate students, post-doctoral fellows and early career academic who are involved in medical, veterinary, or research fields related to zoonotic diseases. Fliers, advertising the course were posted on various platforms including Immunopaedia’s webpage. Applicants were requested to provide a letter of motivation, a short CV, a letter of support from their supervisor, and an abstract to be presented as a poster at the in-person course. 77 applications were received and a pre-screening process followed to identify applicants who met the basic requirements as set out in the published advertisement. Preference was given to applicants from Africa and South America. A shortlist was drafted and applicants selected by a panel of faculty utilising a standardised scoring system. The 30 successful applicants were informed on 25 July 2024. It later transpired that one of the selected applicants did not have a passport and had to be taken off the delegate list. (Lesson : do include a reminder in the advertisement that applicants must be in possession of a passport that will meet visa application and border control requirements.)

The 29 students who partook in the pre-course were representatives of 14 different countries, and 14 males and 15 females. Country representation was 17 from Africa other than South Africa, 8 from South Africa, 3 from South America and, 1 from Europe.

The career status of these participants were 3 post-doctoral fellows, 10 PhD students, 9 masters-students, 1 medical doctor and 6 researchers.

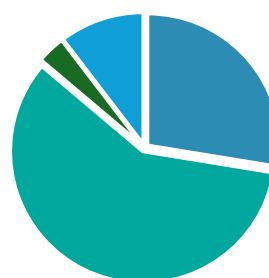
Participants in pre-course (excluding two late additions)

Sex (voluntary declaration)



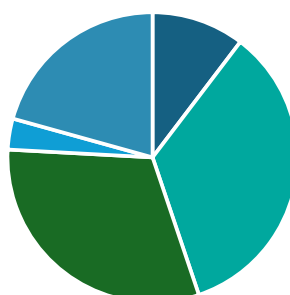
■ Male ■ Female

Country Representation



■ South Africa ■ Other Africa
■ Europa ■ South America

Career status - pre-course



■ Post doc fellows ■ PhD ■ Maters ■ Medical doctor ■ Researchers

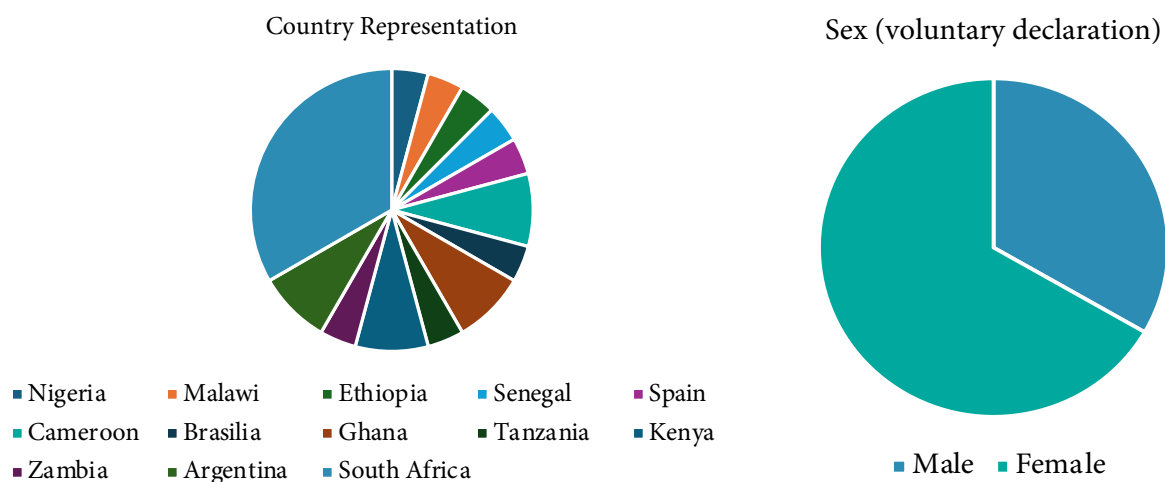
Unfortunately, 5 male candidates from 4 African countries withdrew from the course in Pretoria and only informed the organisers a day or two before they were due to depart from their home countries. One had to attend a ministerial meeting, three did not receive visas in time and one's passport was not returned from consulate in time. (Lesson: Do remind the candidates repeatedly to apply for visas well in advance.) Subsequent two local female masters-degree students were included in the in-person course delegate group. These students were required to complete the pre-course material before the end of the in-person course to qualify for certification.

The delegate who attended the course in Pretoria, including two late, local inclusions were 9 males and 17 females. The non-show of five male delegates impacted negatively on the male to female ratio.

Country representation and sex distribution per country of in-person course were as set out below:

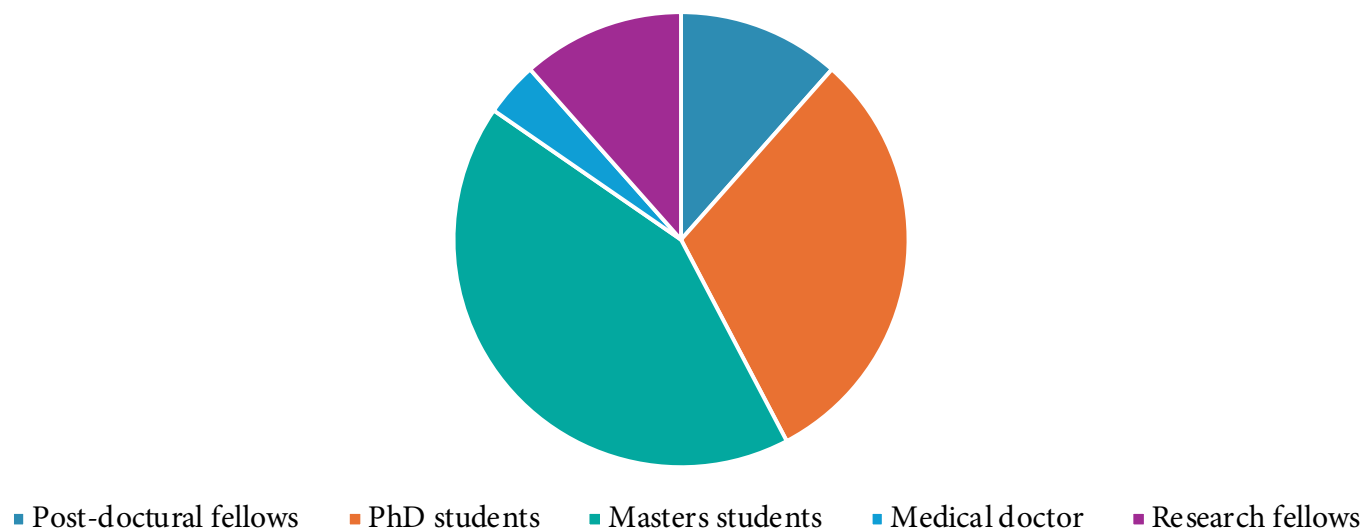
COUNTRY	NUMBER OF DELEGATES /COUNTRY	MALE	FEMALE
Nigeria	1		1
Malawi	1		1
Ethiopia	1	1	
Senegal	1		1
Spain	1	1	
Cameroon	2		2
Brasilia	1	1	
Ghana	2	1	1
Tanzania	1	1	
Kenya	2		2
Zambia	1	1	
Argentina	2		2
South Africa	10	2	8

Participants present at in-person course

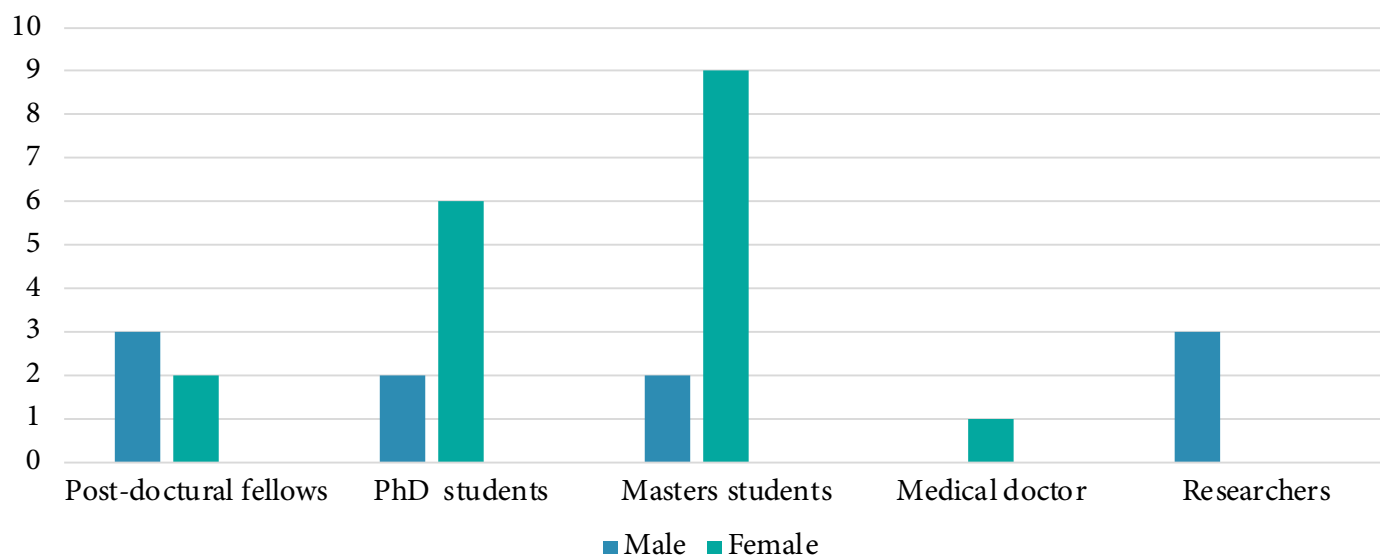


The career status of the participants in the in-person course were 3 post-doctoral fellows, 8 PhD students, 11 master's degree students, 1 medical doctor and 3 persons are research fellows. The gender distribution per career status group were 2 male and 1 female in the post-doctoral fellow group, 2 males and 6 females in the PhD student group, 2 males and 9 females in the master's group, the medical doctor is female and the 3 researches are all males.

Career status of in-person delegates



Sex distribution in-person delegates per career status group



FACULTY

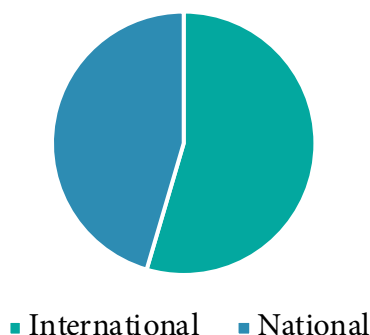
International:

- Professor Alejandra Capozzo – Argentina, IUIS - Veterinary Immunology Committee Chair
- Associate professor Monica Guzman – United States of America – IUIS – Education Committee - member
- Professor Clair Rogel-Gaillard – France – IUIS - Veterinary Immunology Committee – Past Chair
- Professor Roslyn Kemp – New Zealand - IUIS – Education Committee – Vise Chair
- Professor Dieter Kabelitz – Germany - IUIS – Education Committee – Past Chair
- Professor Tracey Lamb – United States of America - IUIS – Education Committee - Member

Local:

- Professor Clive Gray-Stellenbosch – IUIS – Education Committee Chair, Clinical Immunology Committee member
- Professor Theresa Rossouw – South Africa – President SAIS
- Associate professor Chris Marufu – South Africa
- Doctor Sven Parsons – South Africa
- Doctor Selaelo Tshilwane – South Africa

Faculty - international and national representation



Six faculty members were international visitor whilst 5 were from South Africa. Countries represented where Argentina (1), United States of America (2), France (1), New Zealand (1) and Germany (1), South Africa (5)

ADDITIONAL FACULTY

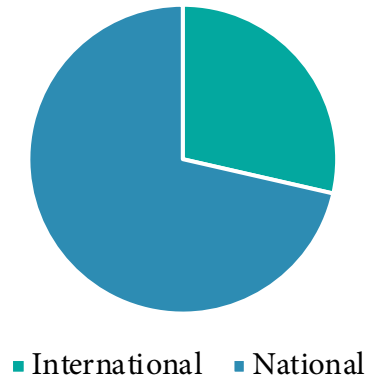
International:

- Doctor Maria Montoya - Spain
- Doctor Lucy Ochola - Kenya

National:

- Doctor Khanyisile Kgodi – Johannesburg
- Professor Michelle Miller – Stellenbosch
- Doctor Christene Maritz-Olivier – Pretoria
- Doctor Marike Geldenhuys-Venter – Pretoria
- Professor Yolanda Lemmer – Pretoria – IUIS - Veterinary Immunology Committee

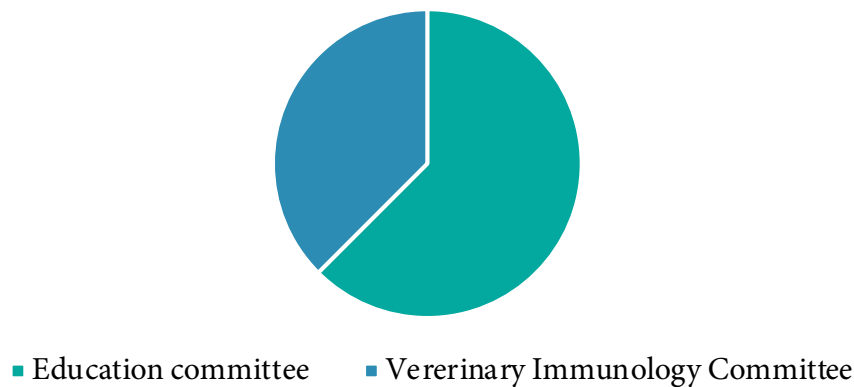
Additional Faculty - international and national representation



Two additional faculty members were international visitor whilst 5 were from South Africa. Countries represented where Spain (1), Kenya (1) and South Africa (5)

The faculty and additional faculty included 5 Education Committee members and 3 Veterinary Immunology Committee members

IUIS Committee Members



GUEST SPEAKERS

- Professor Tiaan de Jager, Dean of the Faculty of Health Sciences, University of Pretoria delivered the welcoming address at the welcoming function held on Sunday 29 September 2024.
- Professor Wanda Markotter, Centre of Viral Zoonoses, Faculty of Health Sciences, University of Pretoria delivered the keynote address on One Health.
- Professor Francois Durant, Zoology Department, University of Johannesburg shared his knowledge on the impact of environmental changes on human and animal health.

FUNDING

Air tickets were paid for all students. Accommodation and local expenses were totally covered by the organizers for all students, faculties and additional faculties. Local expense included a half-day trip to a local nature reserve consisting of a two-hour game drive, one-hour drumming session and snacks. All students and faculties also had access to refreshment during breaks, lunches, and dinners. In line with our focus on

sustainability each delegate received an eco-friendly drinking cup and a set of eco-friendly pencils containing seeds for planting once back home.

No registration fee was payable. Five student delegates did not attend the course in Pretoria although flight tickets were already paid. Some delegates did not complete the pre-course. Lesson: It is felt that payment of a registration fee might have ensured a higher level of commitment for these student delegates.

Total sum: 48 271 USD

Contributors: IUIS 40 000 USD

The South African Medical Research Council (SAMRC) contributed 8 271 USD

Sponsors - The welcoming function, conference bags and stationery were sponsored by Beckman Coulter.

They also had representatives on site to demonstrate some of their equipment. A virtual lecture on flow cytometry was also presented.

The financial contributions made to this course by the IUIS, SAMRC and Beckman Coulter made this valuable training opportunity possible. Without their support this Immuno -South Africa would have remained a dream.

SUMMARY IP ON-LINE PRE-COURSE

Faculty and others involved

Roslyn Kemp – IUIS EDU Online Subcommittee Head

Monica Guzman - IUIS EDU Committee member (EDI Content)

Bon Holtak – Immunopaedia Communications Officer (creation and management of courses)

Immunopaedia Volunteers – sourcing content:

- Vanessa Amana Bokagne
- Nafessa Al sheikh
- Tatenda Murangi
- Oscar Medina
- Alemayehu Abate
- Aka Kouadio Ayebe Edwige
- Nyariki James Nyabuga

Assessment:

- Sawsan Feki - Professor in Immunology , Habib Bourguiba Hospital, Faculty of Medicine, University of Sfax, Tunisia
- Roslyn Kemp – Professor, Department of Microbiology and Immunology, University of Otago, New Zealand
- Mehrnaz Mesdaghi - Associate Professor, Mofid Children's Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran
- Tomabu ADJOBIMEY - Associate Professor of Immunology and Microbiology, University of Abomey-Calavi, Benin
- Lucia Rosas - Research Scientist, College of Veterinary Medicine, The Ohio State University, USA
- Leandro Martinez - Division of Hematology and Medical Oncology, Weill Cornell Medical College, New York, USA

Structure of pre-course

Selected participants were required to complete an online pre-course on the Immunopaedia website, commencing 19 August 2024. This pre-course served as a foundational introduction to key concepts and topics relevant to the workshop's theme. The course content was designed to start at a basic level and move to a more sophisticated level that developed critical thinking skills. This approach ensured all participants were at the same level of understanding to participate fully at the in-person course. By engaging in this pre-course, participants were better prepared to actively participate in discussions, activities, and practical demonstrations during the workshop itself.

It was a self-paced online course released to students 6 weeks before the physical course. The course included videos, papers and case studies with challenge questions and tasks such as quizzes, creating PowerPoint presentations or MP3 recordings to assess understanding of key concepts.

Modules

- Zoonotic Infections and One Health
- Immune Response to Bacterial Zoonotic Infections
- Immune Response to Viral Zoonotic Infections
- Immune Response to Parasitic Zoonotic Infections
- One Health Approach in Zoonotic Disease Research
- Equity, Diversity and Inclusion

Group selection for group work

N/A

Number of zoom meetings

N/A for participants

Scoring of multiple quiz, outcome of scoring

Scores were not assigned – Assessment was performed to ensure participation and understanding of content for each participant.

Number who successfully completed pre-course

31 students enrolled – 29 original selected participants and 2 late additions.

6 of the original candidates did not complete the pre-course. 5 of these persons also did not attend the in-person course and one who attended the physical course but did not complete the assignments before the extended cut-off date.)

Challenges experienced, lessons learned (optional)

The number of questions and tasks did seem to overwhelm some students. Suggest that we cut down the number of large tasks.

SUMMARY OF THE VARIOUS SESSION

The programme commenced on Sunday, September 29, 2024, with participant arrival and registration, followed by welcome remarks and a course introduction delivered by Professors Theresa Rossouw and Clive Gray. The opening evening included a presentation by Professor Tiaan de Jager on malaria in Southern Africa, a Beckman Coulter video presentation introduced by Gert Swanepoel and Voula Stivaktas, and concluded with a welcome reception to facilitate networking among participants.

Monday, September 30, focused on The One Health Approach and immune responses to viruses. The day began with a welcome and an address on equity, diversity, and inclusion by Professor Monica Guzman. Professor Wanda Markotter provided an overview of the One Health concept, followed by sessions on its practical application and the impact of environmental changes on human and animal health. Dr Maria Montoya delivered talks on immunity to viruses and coronaviruses. The afternoon featured student group work comparing immune responses in humans and animals, with case studies and presentations highlighting similarities and potential for diagnostic innovation. The day ended with a Beckman Flow Cytometry presentation and a grant writing workshop.

On Tuesday, October 1, the focus shifted to Immune Responses to Bacteria. Sessions included talks by Professor Michelle Miller and Dr Khanyisile Kgoadi on bacterial immunity and tuberculosis in both animals and humans. Group discussions, student presentations, and case studies followed, emphasizing diagnostic opportunities. Grant writing continued in the evening, and students began preparing their poster presentations.

Wednesday, October 2, addressed Immune Responses to Parasites, with presentations by Dr Lucy Ochola and Professor Christine Maritz-Olivier. Students engaged in comparative analysis of immune responses, followed by a grant writing session. The afternoon featured an excursion to the Rietvleidam conservancy, including a game drive and drumming session, providing a practical and cultural component to the programme.

Thursday, October 3, was dedicated to student Poster Presentations and discussions on Vaccines and Immune Diagnostics. Under the guidance of Professors Alejandra Capozzo and Yolandy Lemmer, students presented their poster elevator pitches and participated in an assignment focused on designing immuno-diagnostics within the One Health framework. The day concluded with further grant writing and faculty-student interaction.

The programme concluded on Friday, October 4, with a Capacity Building session chaired by Professor Clive Gray. Student groups presented their grant proposals, followed by a professional development workshop led by Dr Khanyisile Kgoadi, covering topics such as conference preparation, career planning, fellowship applications, and CV writing. After a final lunch, participants checked out and departed, marking the end of a highly engaging and interdisciplinary training programme.

SUMMARY OF GROUP ACTIVITIES



Day 1: Monday September 30, 2024

Themes: The One Health and approach and Immune responses to viruses

Session 1: Equity, diversity and inclusion – Professor Monica Gusman

Session 2: Overview of the One Health approach – Professor Wanda Markotter

Session 3: One Health in Practice – Dr Maria Montoya

Session 4: Impact of environmental changes on human animal health – Professor Francois Durand

Student group work sessions:

- Comparative immune responses between animals and humans to viruses
- Similarities between human and animal responses to viruses
- Similarities between human and animal responses to viruses - student group presentations/case studies
- Leveraging similarities for diagnostic approaches- student group presentations/case studies

Day 2: Tuesday October 1, 2024

Theme: Immune responses to Bacteria

Session 1: Immunity to bacteria – Professor Michelle Miller

Session 2: Immunity to tuberculosis – focus on animals – Professor Michelle Miller

Session 3: Immunity to tuberculosis – focus on humans – Doctor Khanyisile Kgoadi

Student group work sessions:

- Comparative immune responses between animals and humans to bacteria
- Similarities between human and animal responses to bacteria - student group presentations/case studies
- Similarities between human and animal responses to tuberculosis basilli - student group presentations/case studies
- Leveraging similarities for diagnostic approaches- student group presentations/case studies
- Discussion on the above talks – students and faculty

Day 3: Wednesday October 2, 2024.

Theme: Immune responses to parasites

Session 1: Immune responses in primates – Dr Lucy Ochola

Session 2: Immunity to Parasites – Professor Christene Maritz-Olivier

Student group work sessions:

- Comparative immune responses between animals and humans to parasites

Day 4: Tuesday October 3, 2024

Theme: Vaccine/Immune diagnostics

Session 1: How to design an immunoassay under the one-health perspective – Professors Alejandra Capozzo and Yolandy Lemmer

Session 2: Discussion on the talk – students and faculty

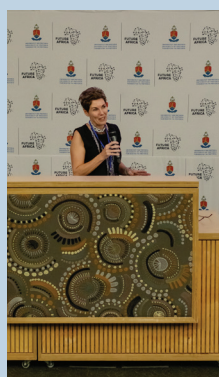
Student group work session:

- Assignment: Immuno-diagnostic design

Day 5: Friday October 4, 2024

Theme: Capacity Building: Oral Scientific Presentation and other needs

Session 1: Professional development: Conferences, career pathways, make presentations, applying for travel-grants, fellowships and scholarships, writing a CV/resume – Dr Khanyisile Kgoadi



GROUP ACTIVITY: GRANT WRITING

Pre-Course Grant Writing Component

Faculty and Mentors

- The **grant writing pre-course** was led by Clive Gray, Tracey Lamb, and Bon Holtak, with support from experienced mentors.
- **Group Mentors:** Sven Parsons & Monica Guzman, Selaelo Tshilwane, Chris Marufu, Michele Miller, Alejandra Capozzo, Lucy Ochola provided guidance and feedback throughout the process.

Structure and Pre-Course Activities

- Participants were divided into six groups, balanced by gender and career level.
- Three online meetings were held before the in-person course.
- Sessions included:
 1. **“How to Write a Grant”** – Introduction to the grant writing exercise.
 2. **Breakout Sessions** – Participants discussed their topics, formed groups, and planned future meetings via WhatsApp.
 3. **“Specific Aims Page in 15 Easy Sentences”** – A workshop on structured and effective writing.

Grant Writing at Immuno-SA

- Participants continued working in their selected groups. Due to no-shows at the in-person course the balanced by **gender and career level** were lost.
- Groups continued worked with their **mentors** throughout the course to develop their proposals.
- On the final day, **each group presented their project**, and **prizes** were awarded to the top three teams

4. Grand writing themes

- Use of Immunoassays to identify common animal and human infections
- Viral antigens, T cell responses and development of a vaccine to Tuberculosis
- Developing a biomarker for coronaviruses infection severity
- Defining the immune mechanisms of asymptomatic tuberculosis
- Improving efficacy of anti-malaria vaccines
- Dissect the role of helminths on immunogenicity of vaccines

5. Grant Writing Winners

1st place: Group 5 – Improving efficacy of anti-malaria vaccines

Mentor: Alejandra Capozzo

Members: Georgette Njila Kameni, Ferran Tarrés-Freixas, Megan Matthews, Fatou Coulibaly Sall

2nd place: Group 1 – Use of immunoassays to identify common animal and human infections

Mentors: Sven Parsons & Monica Guzman

Members: Elijah Kolawole Oladipo, Mbali Shoba, Ibukun Famuyide, Tabitha Koney, Christelle Dongmo Nanfack

3rd place: Group 6 – Role of helminths in vaccine immunogenicity

Mentor: Lucy Ochola

Members: Harriet Natabona, João Pedro Nunes, Cheusisime Kajanga, Courage Chandipwisa

6. Challenges and Lessons Learned

- Not specified, but improvements could include additional pre-course support and structured feedback sessions to refine proposals.

- The absence of the five delegates at the in-person course did reduced the numbers of members in some groups and disturbed the diversity of career levels leaving some groups at a disadvantage.

SOCIAL ACTIVITIES

Opening function

- The course attendees were welcomed by Professor Theresa Rossouw as President of SAIS and Professor Clive Gray as Chair of the Education Committee of IUIS.
- A word of welcome was forwarded to all delegates by Professor Tiaan de Jager, Dean of Faculty of Health Sciences at University of Pretoria and followed with a lecture on Malaria in South Africa
- The sponsors, Beckman Coulter were then given an opportunity to show an introductory video.
- All delegates had an opportunity to meet and mingle over refreshments sponsored by Beckman Coulter. An exited atmosphere permeated the communal area as delegates and facilitators, who worked in groups during the pre-course program, met in person for the first time.

Outing to Rietvlei Conservancy

- On Wednesday 2 October delegates were bussed to the Rietvlei Conservancy for an hour's drumming session followed by a two-hour game drive.
- A scenic drive back to the campus included a stop over at the Union Buildings where the statue of the world renowned and much respected South African leader, Nelson Mandella was visited.
- The outing proved to be a welcome break in a very busy academic program.

Closing function

- A gala dinner was held on Thursday evening.
- Delegates were invited to wear some traditional items from their country of origin.
- The creativity of all contributed to a grand and festive finale to a tough week of learning.



PARTICIPANT FEEDBACK AND EVALUATION

Participants were requested to responses to a set of each question provided in the Immuno-SA 2024 Course Evaluation Survey. Nineteen student delegates completed the evaluation giving a 73,07% response rate.

Coverage of “One Health – Zoonosis and Comparative Immunology”

- The majority of participants agreed that the course sufficiently covered this topic, with positive feedback on the relevance and depth of content. Average score 91,2%. Seven delegated gave a 100% score. The lowest score was 70%

Selection of Faculty

- The faculty selection was well received, with most respondents considering it appropriate and appreciating the expertise of the speakers. Average score 93,1 %. Twelve candidates gave a 100% score and the lowest score given was 74%

Delivery of Course Content

- Participants largely felt that the course content was delivered at an appropriate level, balancing complexity with accessibility for different backgrounds. Average score 90,1%. Seven candidates gave a 100% score and the lowest score was 71%

Quality of Presentations

- Presentations were rated highly, particularly for clarity, engagement, and speed of delivery. Some feedback suggested minor improvements in pacing for better comprehension. Average score 88,05%.

Usefulness of the Course for Ongoing Project Work

- A significant portion of attendees found the course beneficial for their research and ongoing projects, indicating that the knowledge gained would be applicable in their work. An appreciation of the heightened awareness of the one health concept created during the course was a common response. One delegate felt that more focus could have been placed on the one health concept and less on immunology.

Effectiveness of Poster Elevator Pitches

- The exercise was considered effective by most respondents, with many appreciating the opportunity to refine their ability to communicate research concisely. Average score 92,4%. Six delegates gave a 100% and the three lowest scores were 70,71 and 83 which significantly dragged the average score down.

Grant Writing Exercise Effectiveness

- The majority of participants found this activity valuable, highlighting its practical relevance in helping them develop skills for securing research funding. Average score 96,65% which was the highest average score. Interaction with delegates from different backgrounds and good mentoring were two often mentioned comments. Some delegates found it challenging to manage their time and completing the project amidst all the other activities – resulting in working late into the night.

Additional Skills Participants Would Like to Learn

- Popular suggestions for additional training included scientific report writing and communication including presentation skills, advanced grant writing, and career development workshops including pitching science to industry.

Course Organization

- The course was rated as well-organized, with positive comments on logistics, scheduling, and overall coordination.

Most important takeaways

- High engagement in both the general pre-course and grant writing exercises.
- Students benefited from the structured learning approach and progressive complexity of topics.
- Challenges with workload suggest that task volume should be optimized in future editions.
- Grant writing component was well-received, with structured mentorship and interactive discussions contributing to its success.
- Takeaways given by delegates are elegantly summed up by the following input by one student: This course provided a framework for understanding global health challenges by merging these principles, showing how a combined effort in human, veterinary, and environmental health is critical to preventing and managing diseases. In immunology, understanding host-pathogen interactions and comparative immune responses across species is crucial for developing vaccines, treatments, and strategies for disease prevention

Likelihood of Recommending the Course

- Most participants rated their likelihood of recommending the course in the 9-10 (most satisfied) range, showing a strong endorsement of the program.
- Overall, the survey responses indicate a high level of satisfaction, with minor suggestions for improvement mainly related to pacing and additional skills training.

CONCLUSION

The IUIS-FAIS-SAIS Immuno-South Africa 2024 course was a highly successful and enriching learning experience, fostering a supportive and collaborative spirit among participants and faculty. The course was well-organized, seamlessly integrating both the pre-course online learning and the in-person training to ensure participants were well-prepared and engaged. A key strength of the program was its diverse teaching modalities, which included lectures, case studies, discussions, poster presentations, grant writing exercises, and mentorship sessions. This multi-faceted approach provided a high-quality learning opportunity, catering to different learning styles and enhancing participant engagement.

The course also offered valuable lessons learned for future improvements, particularly regarding workload balance in the pre-course phase as well as grant writing and optimizing interactive components. Overall, Immuno-SA 2024 successfully empowered participants with critical immunology knowledge, practical skills, and professional networking opportunities, reinforcing the impact of international collaboration in scientific training.

ANNEXURE 1 - PROGRAMME



IUIS-FAIS-SAIS IMMUNO-SOUTH AFRICA

Pretoria, South Africa | 30 September – 4 October 2024

ONE HEALTH – ZOOONOSIS AND COMPARATIVE IMMUNOLOGY

DAY 0: Sunday September 29, 2024

Time	Programme
14:00 - 17:30	Arrival and Registration
17:30 - 18:00	Welcome Remarks and Course Introduction Professor Theresa Rossouw & Professor Clive Gray
18:00 - 19:00	Welcome to University of Pretoria, Malaria in Southern Africa UP Dean of Faculty of Health Sciences – Professor Tiaan de Jager
19:00 - 19:30	Beckman Coulter video introduced by Gert Swanepoel and Vaula Stivaktas
19:30 - 21:00	Reception

DAY 1: Monday September 30, 2024

Time	Programme
THE ONE HEALTH APPROACH Chair: Professor Theresa Rossouw	
08:00 - 08:30	Welcome - Professor Theresa Rossouw & Professor Clive Gray Equity, diversity and inclusion Professor Monica Guzman
08:30 - 09:15	Overview of the One Health approach Professor Wanda Markotter
09:15 - 10:00	One Health in practice Dr Maria Montoya
10:00 - 10:30	Tea break
10:30 - 11:30	Impact of environmental changes on human and animal health Professor Francois Durand
11:30 - 12:00	Immunity to Viruses Dr Maria Montoya
12:00 - 13:00	Lunch
IMMUNE RESPONSES TO VIRUSES Chair: Professor Clive Gray	
13:00 - 14:00	One health aspects of coronaviruses Dr Marike Geldenhuys-Venter
14:30 - 15:00	Student group work on comparative immune responses between animals and humans to viruses
15:00 - 15:30	Tea break
15:30 - 16:00	Student group work on comparative immune responses between animals and humans to viruses
16:00 - 16:20	Similarities between human and animal responses to viruses Student Group Presentations/Case studies
16:20 - 16:40	Similarities between human and animal responses to coronaviruses specifically Student Group presentations/Case studies
16:40 - 17:00	Leveraging similarities for diagnostic approaches Student Group presentations/ Case studies
17:00 - 18:00	Beckman Flow Cytometry presentation
18:00 - 19:00	Grant writing
19:00 - 20:00	Dinner
20:00 - 21:00	Grant writing

DAY 2: Tuesday October 1, 2024

Time	Programme
IMMUNE RESPONSES TO BACTERIA Chair: Dr Sven Parsons	
08:00 - 08:45	Immunity to Bacteria Professor Michelle Miller
08:45 - 09:15	Immunity to TB – focus on animals Professor Michelle Miller
09:15 - 10:00	Immunity to TB – focus on humans Dr Khanyisile Kgoadi
10:00 - 10:30	Tea break
10:30 - 12:00	Discussion of the above talks All speakers
12:00 - 13:00	Lunch
13:00 - 14:30	Student group work on comparative immune responses between animals and humans to viruses
14:30 - 15:00	Tea break
15:00 - 15:20	Similarities between human and animal responses to bacteria Student Group Presentations/Case studies
15:20 - 15:40	Similarities between human and animal responses to TB specifically Student Group presentations/Case studies
15:40 - 16:00	Leveraging similarities for diagnostic approaches Student Group presentations/Case studies
16:00 - 17:00	Discussion of the above talks Students/Faculty
17:00 - 19:00	Grant writing
19:00 - 20:00	Dinner
20:00 - 21:30	Preparing poster presentations (students only)

Time	Programme
IMMUNE RESPONSES TO PARASITES Chair: Professor Chris Marufu	
08:00 - 08:30	Immune response in primates Dr Lucy Ochola
08:30 - 09:00	Immunity to Parasites Professor Christine Maritz-Olivier
09:00 - 10:00	Student group work on comparative immune responses between animals and humans to parasites
10:00 - 10:30	Tea break
10:30 - 12:00	Grant writing
12:00 - 13:00	Lunch
13:00 - 18:00	Visit to Rietvleidam conservancy – game drive and drumming session
19:00 - 20:00	Dinner

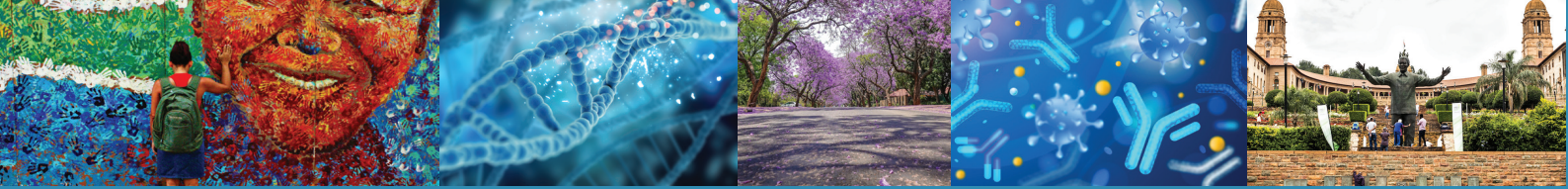
DAY 4: Thursday October 3, 2024

Time	Programme
POSTER PRESENTATIONS Chair: Professor Alejandra Capozzo	
08:00 - 10:00	Poster elevator pitch (3-5 minutes each) All faculty and students
10:00 - 10:30	Tea break
10:30 - 12:00	Poster elevator pitch (3-5 minutes each) All faculty and students
12:00 - 13:00	Lunch
VACCINE/ IMMUNE DIAGNOSTICS Chair: Dr Ivy Tshilwane	
13:00 - 14:00	How to design an immunoassay under the one-health perspective Professor Alejandra Capozzo; Professor Yolandy Lemmer
14:00 - 14:30	Discussion of the above talks Students/Faculty
14:30 - 15:00	Tea break
15:00 - 17:00	Professor Yolandy Lemmer; Professor Alejandra Capozzo Assignment: Immuno diagnostic design - group work
17:00 - 19:00	Grant writing
19:00 - 20:00	Dinner

DAY 5: Friday October 4, 2024

Time	Programme
Capacity building: Oral Scientific Presentation Chair: Professor Clive Gray	
08:00 - 09:30	Grant proposal presentations (15 min per group) All faculty and students
09:30 - 10:30	Check out of accommodation
10:00 - 10:30	Tea break
10:30 - 12:00	Dr Khanyisile Kgoadi Professional development: conferences, career pathways, make presentations, applying for travel fellowships/ scholarships, writing a CV/ resume All faculty and students
12:00 - 13:00	Lunch
13:00 - 17:00	Departure

Program might be subject to some changes



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ONE HEALTH – ZOONOSIS AND COMPARATIVE IMMUNOLOGY