



Curriculum Vitae

1. Personal Data

Surname: EL RAYAH
First name: INTISAR EL-HAG
Title: Prof.
Gender: Female
Nationality: Sudanese
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Current Position; Professor of Medical Parasitology & Epidemiology
Supervisor of Medical Laboratories Department, Girl Branch,
College of Applied Medical Science, Shaqra University, Al
Dawadmi, Saudi Arabia
Links: <https://scholar.google.com/citations?user=jkCFDc8AAAAJ&h>
https://www.researchgate.net/profile/Intisar_Elrayah2
<https://www.linkedin.com/in/intisar-elrayah>
<https://orcid.org/0000-0001-5479-5775>
<https://ksascholar-backend.dri.sa/admin/workspace/personal/overview/>
<https://www.su.edu.sa/ar/faculty-members-68/cv>

❖ Academic qualifications

❖ Degrees:

- ✚ Ph.D. in Preventive Medicine & Public Health (Ph.D., 1997), Veterinary Sciences, University of Khartoum. In association with Swiss Tropical Institute, Switzerland (Thesis title: Some Epidemiological Studies on Drug-resistant *Trypanosoma evansi* isolated from Sudan) □ Specialization: **Medical Parasitology/epidemiology**
- ✚ □ Master in Preventive Medicine & Public Health, the University of Khartoum (Thesis title: Studies on Assessment of Drug resistance in *Trypanosoma brucei evansi* and *Trypanosoma congolense* Specialization: **medical Parasitology**
- ✚ Bachelor of Veterinary Sciences (B.V.Sc.1986,) the University of Khartoum.
- ✚ □ High Sudanese Secondary Certificate (H.S.C. 1981), Omdurman high Secondary School.

❖ Promotion status

- ✚ August 2010: Promoted to Full Professor
- ✚ September 2005-: Promoted to Associate Research Professor
- ✚ September 1997: Promoted to Assistant Research Professor
- ✚ June 1993: Promoted to Researcher
- ✚ January 1993: Employed as Research Assistant at TMRI, NCR

❖ **.Posts held**

2012- Up-to-date	Professor of Medical parasitology, , Epidemiology College of Applied Medical Science,Dawadmi, Shaqra University1433-(2012-)
Jan/2022-Up –to date	Supervisor of medical laboratories program, Girl branch, College Applied Medical Sciences, Dawadmi, Shaqra University
Sep/2020 -Jan/2022	Vice Dean of College of Applied Medical Sciences, Dawadmi, Shaqra University, Saudi Arabia
9/2018-9/2020	Supervisor of Medical Laboratories Department, College of Applied Medical Science Dawadmi, Girl Branch, Shaqra University
9/2014- 7/2018:	Vice Dean of College of Applied Medical Sciences, Dawadmi, Shaqra University, Saudi Arabia
2013-2014	Supervisor of medical laboratories program, Girl branch, College Applied Medical Sciences, Dawadmi, Shaqra University Ministry Of Higher Education, Kingdom of Saudi Arabia 1434H-(2013-)

2013-2019	Head of Scientific committee, College of Applied Medical Sciences, Dawadmi, Shaqra University Ministry Of Higher Education, Kingdom of Saudi Arabia 1434-1435H
2007- 2012	Director , Tropical Medicine Research Institute (TMRI), National Centre for Research, Ministry of Science & Technology, Sudan
2007- 2012	Coordinator of Tropical Medicine postgraduate Students Program, Sudan Academy of Science (SAS)(governmental University), Sudan
2005-2010	Associate Research Professor , Tropical Tropical Medicine Research Institute (TMRI), National Centre for Research, Sudan and Sudan Academy of Science(SAS)
2010-2012	Professor at Sudan academy of science (SAS), Tropical Medicine Research Institute (TMRI), National Centre for Research, Sudan
2002 –2007	Head of Department of Vector and Biomedical Studies, Tropical Medicine Research Institute (TMRI), National Centre for Research, Sudan
1999 –2002	Head of Trypanosomiasis unit, Dept of Vector & Vector Transmitted Diseases, Tropical Medicine Research Institute (TMRI), National Centre for Research, Sudan
1997-1999	Assistant Research Professor in the Department of Vector and Vector Transmitted diseases, Tropical Medicine Research Institute (TMRI), National Centre for Research, Sudan

1993- 1997 **Researcher**, Tropical Medicine Research Institute (TMRI), National Centre for Research, National Centre for Research, Sudan

1990-1997 □□ Part-time Teaching in Department of Preventive Medicine & Public Health, Fac. Of Veterinary Science, University of Khartoum 1993-1997.
□□ Department of Zoology, Faculty of Science, University of Khartoum, 1990-1992
□□ Department of Animal Sciences, University of Juba, Sudan, 1990-1992.

Feb. 1989- Feb 1990 **Research fellow**, International laboratory for Research on Animal Diseases (ILRAD), recently (ILRI) Nairobi, Kenya,

❖ **Experience**

❖ **Teaching Experience Shaqra University, Saudi Arabia**

- ❖ Professor of Medical parasitology, Epidemiology in the College of Applied Medical Science, Dawadmi, Shaqra University Ministry Of Higher Education, Kingdom Of Saudi Arabia 1433-(2012-up to date) teaching these courses: Medical Parasitology course (CLN 362), Epidemiology course (CLN 362), Environmental Microbiology course, Clinical Mycology (CLN 354), Clinical Biochemistry 3 (CLN 353), Practice of Clinical Biochemistry course (CLN 476), Basic Microbiology (CLN232, Virology (CLN354), Department Seminar (CLN485), Professionalism& Health care (HLT231), Clinical enzymology (CLN 475)

❖ **Activities at Shaqra University**

- ❖ Editorial board member, Journal of Medical & Health studies, Shaqra University, Feb 2021- up to date

- ❖ Participate in Quality & Development Deanship activities by giving lectures and participating in the workshops. (certificates attached)
- ❖ Participate as the referee in all Student Scientific Conferences held at Shaqra University since 2012 up to date
- ❖ Enhance the extracurricular activities inside the college by organizing periodical forums for students' activities since 2014- up to date

❖ Curriculum Development & Committee membership in:

Shaqra University

- ✚ Editorial board member, Journal of Medical & Health studies, Shaqra University, Feb 2021- up to date
- ✚ Head of Internship & Training Committee, College of Applied Medical Science Feb-2022 – up to date
- ✚ Member of Self Accreditation committee, College of Applied Medical Science, Girl Branch, Dawadmi, Shaqra University 2012- up to date.
- ✚ Member of College curriculum committee, College of Applied Medical Science 2014-2019
- ✚ Member Scientific Committee, College of Applied Medical Science 2020- up to date
- ✚ Head of Scientific Committee, College of Applied Medical Science, Girl Branch, Dawadmi, Shaqra University 2012-2018.
- ✚ Member of Social Service & education Centre, College of Applied Medical Science, Girl Branch, Dawadmi, Shaqra University 2012- 2018

❖ Research Experience

❖ Research Skills

- ✚ Diseases Diagnostics: (Conventional & Molecular Techniques)
- ✚ Epidemiology (Surveillance & Mapping of the diseases)
- ✚ Drug Assays : Assessment of drug sensitivity *in vivo* & *In vitro*, and designing Clinical Trials Studies
- ✚ Mapping of Vectors & Molecular detection of infection in vectors

❖ Recent Research Activities

Research Projects in Shaqra University

1. Impacts of COVID-19 pandemic on the wellbeing of Dawadmi health staff. (Ongoing project)
2. Impact of Duration of wearing the mask on the health status of medical students during COVID-19 pandemic in the Dawadmi region (under preparation)
3. Effect of benzoin resin fumes on indoor environmental microbes (2019-2020)
4. Knowledge, Attitude, and Practice of Passive Smoking among Pregnant Women and Histological Changes in Their Placenta (2018-2019)
5. Knowledge, attitude, and practice of paramedical students towards MERS-COV infection in Dawadmi, KSA (2015-2016)
6. Seroprevalence of Toxoplasma antibodies among women attending Al Dawadmi Hospital (2013-2014)

Supervision of undergraduate students

Supervising the medical Laboratories students' dissertations submitted for the partial fulfillment of the degree of BSC in Medical Laboratory Science., College of Applied Medical Science, Shaqra University 2012- up to date (List attached)

❖ Training courses in Shaqra University (see Appendix 70)

❖ Achievements

During my supervision of the College of Applied Medical Sciences, Dawadmi, Shaqra University, Saudia Arabia (2014-2018 -2020)

1. Participate in the enhancement of the capacity of the college by improving the academic environment of the Students & teaching staff
2. Participating in the establishment of new committees in the college to advance the curricula and ex-curricular activities in the college (scientific committee & Monitoring & follow-up committee)
3. Establishment of a statistical unit to enhance the work of the accreditation unit
4. Activate the role of the college in the community by participating with governmental and non-governmental bodies in all national and international events.
5. The encouragement of the students in participating in all university scientific events
6. Development of the exemplary student award in the college



Teaching Experience(Sudan)

- ❖ Medical Parasitology 3 ho4 months for 4months each semester in Sudan academy of Science (Governmental University) from 2005 – July 2012
- ❖ Medical Parasitology 2 hours/week for one semester at the University of Medical Science and Technology (Private university) from 2009- to July 2012.
- ❖ Medical Parasitology in Medical entomology course organized by WHO/ Blue Nile Institute or Communicable diseases, Gezira university august 2008/2009
- ❖ advanced diagnostics course to the M.Sc.s. students 2 hrs./week /15 weeks entire semester in Medical Parasitology (tropical Medicine program) Sudan Academy of Science 2009- 2012.
- ❖ zoonotic diseases course (included bacterial, parasitic, viral diseases) to the master students 2 hrs./week /15 weeks full semester in M.Sc.s. Microbiology (tropical Medicine program) Sudan Academy of Science 2005- 2012.
- ❖ zoonotic diseases course (included bacterial, parasitic, viral diseases) to the master students 2 hrs./week /15 weeks full semester in Medical Parasitology (tropical Medicine program) Sudan Academy of Science 2009- 2012.
- ❖ training course for tsetse and in trypanosomiasis with Dept. Of Epidemiology, Ministry of Animal resources to give lectures on trypanosomes to the young veterinarian, 2002.
- ❖ zoonotic diseases (including bacterial, parasitic, and viral diseases) in the Department of Preventive Medicine & Public Health, Fac. Of Veterinary Science, University of Khartoum1993-1997. 2 hours/week for one semester each batch.
- ❖ I taught the Use of SPSS/PC and computer graphics implemented in Tropical Medicine Research Institute (TMRI) Sudan 1995.

- ❖ □ I taught Zoology practical for the preliminary students in the
□ Department of Zoology, Faculty of Science, and University of Khartoum,
1990-1992 4 hours/week.
- ❖ I taught Parasitology practical for the 4th year Students in the Faculty of
natural resources, University of Juba, Sudan, 1990-1992.4 hours/week.

❖ **Supervision of Postgraduate Program :**

- ✚ **Coordinator** of the Tropical medicine program (Master & Ph.D. program) at Sudan Academy of Science (governmental University) 2007-2012.
- ✚ Supervisor of Microbiology Master program (by courses) Tropical Medicine Program, Sudan Academy of Science 2007-2012
- ✚ Supervisor of Medical Parasitology Master Program (by courses) Tropical Medicine Program, Sudan Academy of Science -2008 –2012
- ✚ Co-supervisor of tropical Medicine & infectious diseases masters program partnership between The University of Medical Science and Technology (Private university) and Sudan academy of Science (Governmental university)2009- 2012.

❖ **Curriculum Development& Committee membership (Sudan)**

- ✚ Member of the committee drafting the Master's degree syllabus in Medical Parasitology 2007-2008 in Sudan Academy of Science
- ✚ Member of the Committee drafting a syllabus of the Master degree in Tropical Medicine & infectious diseases course 2008-2009, University of Medical Science& Technology
- ✚ Member of the committee established by the Sudan Academy of Science to revise the regulations of master's degree by courses 2007-2008

❖ **Related teaching experience**

❖ **Supervision &Co-supervision of Postgraduate Students**

Supervision of more than 24 masters and 7 Ph.D. Postgraduate Students (See **appendix 1** for more details)

- ❖ **External and Internal Examiner for 15 master & Ph.D. students'**(
see appendix 2 for more information)

Internationally Research Projects Awarded Grants:

- ✚ Bell Gate Malinda fund (2008-2013) (854 000 USD Dollars) (2010-2013),
Regional project RAF6040, IAEA, \$943,465 USD (2009-2012)
- ✚ WHO/EMRO, Project No. EMSUD/100/50/25, Award No. 51891 (8000\$
US)(2009-2010)
- ✚ Regional project Bioscience eastern and central Africa Network (BecANet) with
a Total grant of 100,000 \$ US. (2007-2009)
- ✚ Proposal Acronym: HATcap. Total Fund was 340 000 EU. Contribution from EU
to TMRI 51,960 EU.(2006-2009)
- ✚ EMRO/WHO grant) Serial number: (2003-2004)SGS03 (8 000\$ US)
- ✚ EANETT/SDC grant TMRI >200 000 USD dollars (2001-2007)
- ✚ Project no. ID 990917,T16/181/530 Funded by TDR/WHO (2000-2001) (10
000US\$)
- ✚ CDS/CSR/EPHC/WHO(2001-2002) (8 000US\$)

❖ Principal investigator for the following project(Sudan)

1. National Coordinator of (Applying Molecular Techniques to Interventions Against the
Major Poverty Related Diseases (HIV, TB, and Malaria) for Improving Disease Control)
RAF6040, IAEA, USD 943,465 (2009-2013)
2. Recent situation of Sleeping Sickness in Southern Sudan. It is funded by National Centre
for Research (NCR) (1999-2001).
3. Drug trials on *Trypanosoma evansi*. Funded by the National Centre for Research. (2000-
2002)
4. Use of Molecular Diagnostic Techniques (PCR) in Detection of Trypanosomes in tsetse
flies 2006-2009. It is funded by EANETT and the National Centre for Research (NCR).
5. Investigations of *Trypanosoma evansi* human infections in Sudan (2006-2009), funded by
NCR.
6. Surveillance of *Trypanosoma evansi* in AL-Gadarif State, (2007) funded by NCR and
Sudan Academy of Science (SAS).

7. Role of the agro-pastoral sector and domestic animals as the reservoir in epidemiology of Sleeping sickness in Baher El Jabel State, Southern Sudan. Supported by Eastern Africa Network for Trypanosomosis (EANETT) (2002-2006)
8. Eastern African network of Trypanosomiasis (EANETT), TMRI Founder member. A Swiss development agency funded EANETT, Contribution to the institute as core budget from 2001-to 2007 was 200 00\$ US.
9. Population dynamics, structure, mortality rates, and feeding behavior of *Glossinaspp.* (Diptera: *Glossinidae*), Equatoria State.” Project no. ID 990917,T16/181/530 Funded by TDR/WHO (2000-2001) (10 000US\$)
10. • Mapping out of Sleeping Sickness foci in Juba region, Sudan. Funded by CDS/CSR/EPHC/WHO(2001-2002) (8 000US\$)
11. • Evaluation of the sensitivity of the diagnostic techniques to diagnosis of Human African Trypanosomiasis(Sleeping sickness)(EMRO/WHO grant) Serial number: SGS03 (8 000\$ US)
12. • Comparative population structure and phylogeography of trypanosomes and their tsetse fly vectors. Partner with other TRC /KARI, Kenya, TTTRI / Tanzania, Funded by Bioscience eastern and central Africa Network (BecANet) with a Total grant of 100,000 \$ US.
13. • Support for clinical Trail Capacity Platform for sleeping Sickness in Africa. FP6 -2002- INCO- DEV/ SSA-1 proposal no: 31620. Proposal Acronym: HATcap. Total Funded was 340, 000 EU. Contribution from EU to TMRI 51,960 EU.(2006-2009)
14. • Epidemiology of Toxoplasmosis in Khartoum State-Funded by National Centre for Research(2001-2004) •
15. Toxoplasmosis and *Plasmodium falciparum* malaria as risk factors in abortion in pregnant Sudanese women, (2006-2008) funded by NCR
16. The epidemiology of toxoplasmosis in humans and the role of environmental factors in the spread of the disease, (2004-2008) funded by NCR.
17. Epidemiological studies on Toxoplasmosis in Slaughterhouse, (2006-07) funded by NCR and SAS.
18. Antifungal Effect of *Acacia nilotica*.2007-2009 funded by NCR • Epidemiology of human babesiosis in Central Sudan, (2007-2009) supported by NCR.
19. Epidemiological study of brucellosis in Khartoum ّّState, Sudan. (2006-07)) funded by NCR and SAS.

20. Gender implication in tuberculosis infection in Khartoum State (2006-07), funded by NCR and SAS.
21. • Incidence of *Mycobacterium bovis* among T B patients in Khartoum State (2008) funded by NCR/SAS.
22. Epidemiology of Brucellosis (Malta Fever) among febrile patients In Khartoum North (2008) funded by NCR and SAS
23. Determination of risk factors that affect syphilis infection among blood donors (2008) funded by NCR and SAS
24. • Incidence of co-infection of lymphatic filarasis & Malaria in Khartoum State (2008) funded by NCR and SAS
25. Bionomics of mosquito about the transmission of lymphatic filariasis and malaria in Blue Nile State, Sudan. (2006-2008).
26. • Incidence of Hepatitis A among elevated liver enzymes patients in Khartoum Teaching Hospital (2008), Funded by NCR/SAS

❖ CO -Investigator;

- ✚ • Anticancer Traditional Medicinal Plant from Sudan in collaboration with Aromatic Plant Institute & International Center of Chemistry & biology, Karachi University Pakistan 2009-2011.
- ✚ • Project Title: Development and application of xenomonitoring tools in HAT control programs in endemic countries. I. John C.K. Enyaru, FUNDED by Bell Gate & Malenda (2008-2013) (8000 000 Us Dollars) 2008-2013),
- ✚ • Comparative population structure and phylogeography of trypanosomes and their tsetse fly vectors, PI Johnson Ouma, Funded by BECA/NEPAD/AU (200 000 USD Dollars) 2007-2009

❖ International recognition

- ✚ **Chairperson** of Eastern African network of Trypanosomiasis (EANETT)
2004-2006 (**Network** established by Swiss tropical Institute & African Countries)
- ✚ Coordinator & Country representative of Eastern Africa Centre for Infectious Diseases Control (EACIDS) 2010- 2012
- ✚ Member of the steering committee of HAT platform /DNDi (Drug initiative against neglected diseases /World Health Organization/MSF 2006-2012
- ✚ Board member of Eastern African network of Trypanosomiasis (EANETT).1999-2011
- ✚ The country representative of the Eastern African network of Trypanosomiasis (EANETT) 1999.2012
- ✚ Member of the International Society of the Infectious Diseases, 2004-
- ✚ Member of Association Against Trypanosomiasis in Africa(AAT) from2001
- ✚ Member of the scientific advisory board, Bioinformatics LTD
- ✚ The focal point of sleeping Sickness Research to WHO 2001-2012

❖ Consultancies:

- ✚ Local consultant (in human health, East African Centre for Infectious Diseases Surveillance (EACIDS)to carry out an inventory of the institutions, programs, and individuals working on Infectious Diseases in the country(2009)
- ✚ Expert Mission to the Ministry of Animal Resources Southern Sudan to put the Strategic plan to control trypanosomiasis& Tsetse flies:14-17 Nov. 2008
- ✚ Temporary advisor to WHO in Chad mission for control of Ss in Bodo from 29th Nov. to 14 Dec. 2002
- ✚ Sleeping sickness control Program, Federal Ministry of Health Consultant, 2001.
- ✚

❖ Awards and Fellowships

- ✚ One-year fellowship (Feb 1989- Feb1990) from International laboratory for Research on Animal Diseases (ILRAD, recently ILRI) Nairobi, Kenya, Training on In vitro assessment of trypanocidal drugs on *T congolense*. Part of M.Sc.
- ✚ Four Years fellowships (1993-1997) from the National Centre of Research for Ph.D. at Khartoum University.
- ✚ Two Months fellowship (June 1-August 18, 1995.) from Swiss Tropical Institute (STI), Basil, Switzerland, Training on the Assessment of drug resistance on Trypanosomes as a part of my Ph.D. Thesis.
- ✚ Four-month fellowships (August 18- December 12, 1996) from Swiss Tropical Institute (STI), Basel, Switzerland. Training on the Isoenzyme Characterization and Karyotyping mapping of Trypanosomes, as part of my Ph.D. Thesis.
- ✚ Six weeks fellowship (13 Sep. to 27 Oct. 2001) from World Health Organization (WHO), Lausanne, Switzerland, Annecy France, Training on Advanced Immunology, Vaccinology & Biotechnology of Infectious Diseases.
- ✚ Two weeks fellowship (26 August-12 Sept. 2002) from World Health Organization (WHO), Basel, Switzerland, Training on surveillance of transmissible diseases.
- ✚ Four weeks fellowship (July-3 August 2003) from Eastern Africa Network for Trypanosomiasis (EANETT), Training on the diagnostic techniques of the Sleeping sickness in Institute of Tropical Medicine, Antwerp, Belgium,

❖ Related research activities:

Participation in expert meetings:

- Eastern African Network for Trypanosomiasis & tsetse (EANETT) Meetings:
- EANETT Board Meetings Attended
- HAT platform Meetings attended
- Development and application of xenomonitoring tools in HAT control Programs in endemic countries:
- WHO: I participated in different WHO meetings held in the region as Expert in sleeping sickness:

Other Experts Meetings related to research activities:

- The 2nd ANDI is the ‘African Network for Drugs and Diagnostics Innovation(ANDI) Stakeholders meeting, Cape Town, South Africa from 4th –7th October 2009.
- The 3rd ANDI, the ‘African Network for Drugs and Diagnostics Innovation(ANDI) Stakeholders meeting, Nairobi, Kenya, 11-14 Oct.2010
- Donors meeting for the SIT project, 20 November 2007, Hilton Hotel,
- Organizations of experts’ missions

❖ Abroad training of researchers and students within research projects(appendix 4)

❖ **Journal editing & Referee**

1. Editorial board member, Journal of Medical &Health studies, Shaqra University, Feb2021- up to date
2. Scientific newsletter of the college of applied medical science, Shaqra university 2012-2016
3. Journal of chemistry society Pakistan JCSP (2012)
4. African Journal of Pharmacy and Pharmacology2012)
5. African Journal of Public Health & Epidemiology2012)
6. HAT platform Newsletter (2006-2012) 4 issues
7. Sudan Academy of Science Journal
8. Sudan Veterinary Research Journal

❖ Workshops, Conferences attended (see Appendix 6)

❖ **Training courses in Shaqra university** (see Appendix 70)

❖ **Organization of the Conferences, Meetings& workshops**

Local Organizer of

- ✚ Scientific Research Workshop, College of Applied Medical Sciences for Girls (Aldawadmi) from 14-16 Safar 1435 H (17-19 December 2013).Shaqra University, Dawadmi, Saudi Arabia.
- ✚ EANETT Board meeting Khartoum, hosting 10 participants from African & European countries, Meridian, Khartoum, June 2002

- ✚ • the 6th annual EANETT conference, Khartoum, 40 participants from Africa & Switzerland, Belgium, Holland & US held in Holiday villa Khartoum, Sudan, 29th Nov. -1st Dec. 2004
- ✚ • ETHICS workshop 20 participants from DNDi& national research Institutions held in Meridian hotel July 2007
- ✚ • HAT platform conference held in Khartoum 2007 hosting 55 participants from different African countries & international Organizations held in Holy day villa Nov 2007.

❖ Achievements

❖ Research achievements (appendix 7)

❖ Management achievements (Appendix 8)

❖ Publications

Peer-reviewed Journals

*Principal investigator of the project

Co-investigator of the project

1. Yatta S. Lukou, Dominic Odwa Atari, Kenneth L. L. Sube, Joseph Lako, Erneo B. Ochi & **Intisar E. Elrayah (2023)** The risk and associated control problems of Human African Trypanosomosis (HAT) in the endemic foci of Greater Equatoria Region, South Sudan. African Geographical Review. Volume 42 (4)- Pages: 415-430.(Scopus) ISSN (1937-6812)(4.
2. Lukou, Yatta S. and Abdelrahman, Mubarak M. and Mohammed, Yassir O. and Jumi, Loro G. L. and Ochi, Erneo B. and Suliman, Yousif R. and **Elrayah, Intisar E. (2022)** The Power of Multiple Linear Regression Models to Predict Apparent Density of Glossina fuscipes fuscipes (Diptera: Glossinidae): A Case Study of Kajo-Keji County, Central Equatoria State, South Sudan. In: Cutting Edge Research in Biology Vol. 2. B P International, pp. 102-117. ISBN 978-93- 5547-982-2

3. Yatta S. Lukou, Mubarak M. Abdelrahman, Yassir O. Mohammed, Loro G. L. Jumi Erneo B. Ochi, Yousif R. Suliman, **and Intisar E. Elrayah**,(2021). Application of linear regression models in predicting the density of *Glossina fuscipes fuscipes* (Diptera: Glossinidae) in Kajo-keji County, Central Equatoria State, South Sudan. Journal of Parasitology and Vector Biology , Vol. 13(1), pp. 51-57, January-June 2021,DOI: 10.5897/JPVB2020.0403 , Article Number: C65FAAC66756 ,ISSN: 2141-2510 ,Copyright ©2021
4. Mashael W. Alruways, **Intisar E. Elrayah***, Mariam A. Mansi (2020).Effect of Benzoin Resin Fumes on Indoor Environmental Microbes. International Journal of Medical Research & Health Sciences, 2020, 9(12): 52-58.
5. Fuad Mohammed Alsaide, Atif Abdurrahman Elagib, **Intisar Elhag El-Rayah**, and Mosab Nouraldein Mohammed Hamad. (2019) Immunological and Molecular Diagnosis of *T. gondii* Infection among Aborted Women in Sana'a Capital and Capital Trusteeship, Yemen. International Journal of Medical Research &Health Sciences, 2019, 8(7): 122-133
6. Madiha M. M. Makhoulf, **Intisar E. Elrayah**, Entesar M. M. Makhoulf, Thuraya A.Elhassan and Mashael W. Alruways . (2019) Knowledge of Passive Smoking among Pregnant Women and histological Changes in their Placenta in Al-Dawadmi, Saudi Arabia. ISSN No: 2319-5886. International Journal of Medical Research &Health Sciences, 2019, 8(5): 1-11
7. Yassir Osman Mohammed, Khitma Hassan ElMalik, Mohammed Musa Mohammed-Ahmed, and Intisar Elrayah(2019) Factors influencing the seroprevalence of Trypanosoma brucei gambiense sleeping sickness in Juba District, Central Equatoria State, Southern Sudan. African Journal of Dairy Farming and Milk Production ISSN 2375-1258 Vol. 6 (1), pp. 001-009, January 2019. International Scholars Journals
8. Najem Aldin Mohammed Osman, **Intisar Elhag Elrayah**, Yassir Mahgoub Mohamed, Muataz Mohamed Eldirdery, Salaheldein Gumaa Elzaki, Abdallah Elssir Ahmed, and Ali Mohamed Elhassan Eleragi. (2018). Frequency of Methicillin Resistance Among *Staphylococcus aureus* Clinical Isolates in Khartoum State, Sudan. Sudan Journal of Medical Sciences. Volume 13, Issue no. 4, DOI 10.18502/sjms.v13i4.3596.Production and Hosting by Knowledge E

9. Amin Omer Ibrahim, **Intisar E. Elrayah**, Eatherlrahman M. Gameel (2017)> ILED fluorescenRawal Medical Journal: vol .42.Nt microscope in Laboratory diagnosis of tuberculosis. o.3, July-Sep. 2017.Pp 396-399.
10. Muataz M.Eldirdery ,**Intisar E. Alrayah**, Mona OA. AwadElkareIm, Fatima A. Khalid, Asrar M A/Salam Elegail, Nuha Y. Ibrahim, Eman OM. Nour, Rahma H. Ali, HAMDAN M. HAMDAN6, Nagi M. Awad7, Yassir M. Mohamed Ahmed1, Nihad M A. Elhaj1, Atif A. Elagib. (2017) Prevalence of Multidrug-Resistant Tuberculosis among Smear Positive Pulmonary Tuberculosis Patients in Eastern Sudan.*American Journal of Microbiological Research*, 2017, Vol. 5, No. 2, 32-36 Available online at <http://pubs.sciepub.com/ajmr/5/2/2> ©Science and Education Publishing
11. Durra Tibeigat, Elham Ahmed, Intisar Elrayah(2016) Incidence of toxoplasmosis and malaria among aborting women attending Elsheik Mohamed Ali Fadol maternity hospital in Omdurman state, Sudan.National Journal of Advanced Research Online ISSN: 2455-216X; Volume 2; Issue 6; November 2016; Page No. 35-38
12. NajemAldin Mohammed Osman, **Intisar ElhagElrayah***, Hisham Altayb, NihadMohammed Elhaj, Mohamed Ahmed Salih, Nadir Abuzeid, Muataz Mohmed Eldirdery, YassirMahgoub Mohamed (2016) Detection of Novel Mutation in LukS Panton-Valentine Leukocidin Gene in Twelve Isolates of *Staphylococcus aureus* from Sudanese Patients.*International Journal of Molecular and Clinical Microbiology* 6(2) (2016) 663-669
13. Durra Tibeigat, Elham Ahmed and **Intisar Elrayah*** (2016) Sero-prevalence and risk factors of *Toxoplasma gondii* infection among aborting women attending Elsheik Mohamed Ali Fadol Maternity Hospital in Omdurman state, Sudan. *International Journal of Advanced Scientific Research* Volume 1; Issue6; September 2016; Page No. 15-18.
14. Muataz M. Eldirdery, **Intisar E. Elrayah***, Mona OA. AwadElkarim, Fatima A. Khalid, Asrar M A/Salam Elegail, Nuha Y. Ibrahim, Eman O M. Nour, Rahma H. Ali, Hamdan M. Hamdan, Nihad M A. Elhaj, Atif A. Elagib (2016)- Rapid detection of Multi-Drug Resistant- Tuberculosis using Line Probe Assay (LPA) in Sudan. *EUROPEAN ACADEMIC RESEARCH* - Vol. III, Issue 10 / January 2016PP:10755-10768
15. Muataz M. Eldirdery1,**Intisar E. Alrayah*** Mona OA. AwadElkareIm, Fatima A. Khalid, Asrar M A/Salam Elegail, Nuha Y. Ibrahim, Eman OM. Nour, Rahma H. Ali, Elena Hailu, Markos Abebe, Abraham Aseffa, NajemAldin M. Osman, Maowia M. Mukhtar, Nihad M A. Elhaj, Atif A. Elagib.(2015). Genotyping of Pulmonary

Mycobacterium tuberculosis Isolates from Sudan Using Spoligotyping. American Journal of Microbiological Research, 2015, Vol. 3, No. 4, 125-128.

16. Vincent Pius Alibu, John C.K.Enyaru, Enoc k Matovu, Imnal.Malele, John E Chisi, Nicolas Mbongo, Philemon Mansinsa, **El Rayah Intisar**, Yassir Mohammed, Mubarak, Erneo Ochi (**2015**) Molecular xenomonitoring of trypanosomes in tsetse flies. Submitted, Journal of Parasitology and Vector Biology (2015)Vol. 7(6), pp. 108-114, July 2015
17. NajemAldin M. Osman, **Intisar E. Alrayah***, YassirMahgoub Mohamed, Ali M El-Eragi, Muataz M. Eldirdery, and Mohamed Ahmed Salih, (**2015**) “Molecular Study of Pantan-Valentine Leukocidin Genes among Staphylococcus aureus clinical Isolates in Khartoum State, Sudan.” American Journal of Microbiological Research, vol. 3, no. 3 (2015): 107-111. doi: 10.12691/ajmr-3-3-2..
18. Yatta S Lukaw, Mubarak M Abdelrahman, Yassir O Mohammed, Erneo B Ochi, Yousif R Sulaiman, and **Intisar E El-Rayah**,(**2015**) Performance Assessment Of Molecular and Microscopy Tests For Detection Of Trypanosoma Species In GlossinaFuscipesFuscipes (Diptera: Glossinidae) Midguts In Kajo-Keji County, South Sudan, International Journal of Bioassays, 2015, 4 (05), 3910-3914.
19. Enyaru C.K, Njuguna J., Alibu V., t Matoovu E, MaleleI ,Chisi J, Mbonggo N , Mansinsa P., **Intisar Elrayah**. Mohammed Y, Mubarak M. Ochi E. Nasntulya V. (2014).Development and evaluation of lateral flow test to detect trypanosomes in tsetse flies. Journal of Parasitology and Vector Biology ., Vol 6 (12), pp. 181-188, December 2014
20. Yatta S. Lukaw, Mubarak M. Abdelrahman, Yassir O. Mohammed, Erneo B. Ochi, and **Intisar E. Elrayah** (2014). Factors Influencing Seasonal Abundance of Glossinafuscipesfuscipes (Glossina: Glossinidae) in Kajo-Keji county, South SudanCurrent Research Journal of Biological Sciences 6(6): 222-228, 2014 November 2014
21. Khalil Mohamed1, Petr Kodym, Marek Maly and **Intisar ELrayah*** (2014) Environmental and Food Habitat Risk Factors Associated with *Toxoplasma gondi* infection in Rural Women in Sudan. *Int.J.Curr.Microbiol.App.ISSN: 2319-7706*Volume 3 Number 2 (2014) pp. 208-222
22. Khalil Mohamed1, Petr Kodym, Marek Maly and **Intisar ELrayah*** (2013) Detection of acute toxoplasmosis in rural women in Sudan using different diagnostic tests. African Journal of Microbiology Research, Vol. 7(46), pp. 5227-5233, November 2013 DOI: 10.5897/AJMR12.701 ISSN 1996-0808 ©2013 Academic Journals <http://www.academicjournals.org/AJMR>

23. Khalil Mohamed; A\Aziz A. Ahmed; **Intisar E. Elrayah***(2013) Prevalence and risk factors for *Toxoplasma gondii* infection in humans from Khartoum State, Sudan International Journal of Public Health and Epidemiology (ISSN: 2169-303X) Vol. 2 (3), pp. 060-066, March, 2013
- i.
24. Yousif E. El Amin, Arwa H. Elaagip, Ehab A. Frah, Mo'awia M. Hassan, **Intisar E. El Rayah**[#] and Yassir O. Mohammed (2013). Fauna of Mosquitoes in Endemic Malaria and Lymphatic Filariasis at Ed Damazane Locality, Blue Nile State, Sudan. International Journal of Current Research, Vol. 5, Issue, 05, pp.1151-1154, May 2013.
25. Mohammed A. Basheer, Yassir O. Mohammed, Mo,awiaMukhtar Hassan, Mohamed A., Mohamed M. Mohamed-Ahmed and **Intisar E. El Rayah***(2013) Detection of *Trypanozoon* trypanosomes infections on *Glossina fuscipes fuscipes* (Diptera: Glossinidae) using polymerase chain reaction (PCR) technique in the Blue Nile State, Sudan. African Journal of Biotechnology Vol. 12(1), pp. 89-95, 2 January 2013
26. Mohammed A. Basheer, Yassir O. Mohammed, Mo,awiaMukhtar Hassan, Mohamed A., Mohamed M. Mohamed-Ahmed and **Intisar E. El Rayah***(2012) Spatial distribution of tsetse flies in the Blue Nile State, Sudan. Journal of Veterinary Medicine and Animal Health Vol. 4(9), pp. 140-145, December 2012
27. Mohamed K, Kodym P, Maly M, **Rayah IEL*** (2012) Socio-economical Risk Factors Associated with *Toxoplasma gondii* Infection in Rural Women at Childbearing Age in Sudan. 1:488. doi:10.4172/scientificreports.488
28. Khalil Mohamed¹, PetrKodym, MarekMaly and **Intisar EL Rayah***(2012). Assessment of Screening Tests Used to Detect *Toxoplasma gondii* in Women in Sudan. J Med Diagn Meth 2012, 1:1 ISSN: 2168-9784 JMDM, an open-access journal.
29. Atif El Amin Abdelgadir, Khitma Hassan ElMalik, **IntisarElhaj El Rayah***(2011). Biochemical changes in sleeping sickness serum samples detected by CATT in Sudan. Journal of Medicine and Medical Science Vol. 2(9) pp.1123-1125, September 2011.
30. Khalil M. Khaliland **Intisar E. Elrayah***(2011). Seroprevalence of *Toxoplasma gondii* antibodies in Sudan farm animals (camels, cattle, and sheep). Journal of Medicine and Animal Health Vol. 3(3), pp. 36-39, July 2011.

31. Mubarak M. Abdelrahman, Ehab A. Frah, DianahKatiti, EnockMatovuand **Intisar E.Elrayah*(2011)**. Application of loop-mediated isothermal amplification(LAMP) of the random insertion mobile element (*RIME* -LAMP) to diagnose camel *Trypanosomiasis* in Sudan. African Journal of Biotechnology Vol. 10(21), pp. 4508-4512, May 2011.
32. AtifElaminAbdelgadir, Khalil Mohammed Khalil, Mubarak Abdel Rahman, Khitma Hassan Elmalik, **Intisar El Rayah*(2011)** Sero-epidemiological study of Human African Trypanosomiasis in non-endemic areas. Journal of Medicine and Medical Sciences Vol.
33. Y. O. Mohammed, M. M. Mohamed-Ahmed, T. K. Lubna and **I. E. El Rayah*(2010)** Detection of Trypanosomabruceigambiense and T. b. rhodesiense in Glossinafuscipesfuscipes (Diptera: Glossinidae) and Stomoxys flies using the polymerase chain reaction (PCR) technique in southern Sudan, Published at African Journal of Biotechnology, vol. 9(38): pp. 6408-6412, September; 2010.
34. Yassir Osman Mohammed, .; Khitma Hassan ElMalik, Mohammed Musa Mohammed-Ahmed, **Intisar Elrayah*. (2010)** Factors influencing the seroprevalence of *Trypanosomabruceigambienses* sleeping sickness in Juba county, Central Equatoria State, Southern Sudan.” Journal of Public Health and Epidemiology Vol. 2(5), pp. 100-108, August 2010
35. Khalil Mohamed, **Intisar El Rayah***, Alia Bilal, ELTaib Gumaa, Ali Abdel Magid, MarekMaly, PetrKodym, **(2009)** Immune- diagnosis of latent toxoplasmosis in childbearing age women in rural areas in EL Geizera State, Sudan International Journal of Medicine and Medical Sciences. Vol. 1(7), pp. 272-277, July 2009
36. Hisham. M. Osman1; **Intisar. E. El Rayah***; Mubarak. M. Abdel Rahman ;Yassir . O. Mohammed.**(2009)** The socio-economic characteristics of the population under sleeping sickness risk in Bahr El Jebel State, Southern Sudan. Sudan Academy of Sciences Journal. Vol 3 No. 1 p 84-98.June 2009

37. Atif E. Abdel Gadir, Mubark Abdel Rahman, **Intisar E. EL Rayah** and Khitma H. Elmalik. (2008). *In-vivo* study of drug-resistant *Trypanosoma evansi* isolated from naturally infected camels in Sudan. *Journal of Camel Practice and Research*. Vol 15 No 1, p 89-93.
38. Atif E. Abdel Gadir, **Intisar E. EL Rayah*** and Khitma H. Elmalik (2008). Investigation of African human trypanosomiasis using Card Agglutination Test for Trypanosomiasis in Southern Sudan. *Sudan Academy of Sciences Journal*. Vol 2 No. 1.
39. Khalil, K. Abdel Gadir, A., Abdel Rahman, M, Mohammed, Y, Ahmed, A and **Elrayah, I.*** (2007). Prevalence of *Toxoplasma gondii* antibodies in camels and their herders in three ecologically different areas in Sudan. *Journal of Camel Practice and Research*, **14** (1): 11-13. 10.
40. **Intisar E. Elrayah***; Mubarak A/Rhama; Lubna T. Karamalla; Khalil M. Khalil; Philippe B. (2007). Evaluation of serodiagnostic tests for *T.b. gambiense* human African trypanosomiasis in Baher El Jabel State, Southern Sudan. *Eastern Mediterranean Health Journal*, **13**, (5).
41. Yassir O. Mohammed, Mohammed M. Mohammed-Ahmed, Khitma H. El Malik, and **Intisar E. Elrayah.*** (2007) Distribution pattern of *Glossina fuscipes fuscipes* (Diptera: Glossinidae) in Bahr el Jebel State, Southern Sudan. *International Journal of Tropical Insect Science*, **27**: 210-
42. M.M.Mahamed-Ahmed, M.A. Abdulla, Y.O.Mohamed, **I.E., ELrayah#** and Y. E.El Amin (2007). Trapability of periurban populations of horseflies (DIPTERA: TABANIDE) in Khartoum State, Sudan. *J.Sc. Tech*, Vol 8(2), p 46-64.
43. **Intisar E. Elrayah*** and Khitma H. El Malik (2006). Characterization of quinapyramine (Trypacide) drug-resistance *Trypanosoma evansi*. *African Journal of Biotechnology*; **5** (10): 951-955.

44. . Atif. E. Abdel Gadir, Khalil, M. Khalil; Mubarak, M. Abdelrahman, **Intisar, E. Elrayah;** Khitma, H. Elmalik(2006). Application of card agglutination test and card indirect agglutination antigen test for detection of camel trypanosomosis in Western Sudan, *Journal of Camel Practice and Research*, **13**: (1) 41 – 43.
45. Yassir Osman Mohammed, .; Khitma Hassan ElMalik, Mohammed Musa Mohammed-Ahmed, **Intisar Elrayah*(2005)**. Responses of *GlossinaFuscipesFusipes*(DIPTERA: GLOSSINIDAE) To Traps in Juba, Southern Sudan. *ISCTRC*; Publication No: 123, Page 509-516.
46. **Intisar E. ElRayah,***Khitma H. ElMalik, Mubarak M A/Rahaman, Khalil .khalil, Yassir O Mohammed, Suad M. Suliman, Nabil A. Mikhail. Updating the situation of sleeping sickness in Bahr El Jabel State, Southern Sudan. *ISCTRC*; Publication No 122.
47. **Intisar E. El Rayah* (2003)** Historical Review of Sleeping sickness in Sudan.*ISCTRC*; Publication No. 122.
48. Mubarak M Abdelrahman, khitma H. Elmalik, **Intisar E. ElRayah*. (2003)**. In Vivo effect of ethidium alone or combined with Quinapyramine on *Trypanosomaevansiresistant* strain to Quinapyramine. *ISCTRC*; Publication No 122.
49. Khalil M.Khalil, AtifabdelGadir, Khitma El malik, **Intisar Elrayah* (2003)**. Biochemical changes in sleeping samples were detected by using CATT in Sudan. (2003). *ISCTRC*; Publication No 122.
50. Atif Abdel Gadir, **Intisar El Rayah***, SuadSuliaman, Khitma H. Elmalik. (2003).A cross-sectional study of sleeping sickness using CATT in Southern Sudan. *ISCTRC*; Publication No 122

51. **Intisar E. El Rayah***; Atif E. A/Gadir; Mohammed O. Mysara, Suad M. Suliman; Badria B. El Sayed; Khitma H. El malik; (Prevalence of sleeping sickness in Sudan) *ISCTRC*; Publication No: 120, Page
52. Mohammed, Y.O.; Mohammed-Ahmed, M.M.; **El-Rayah, I.E.,***; Suliaman. S.M; ELMalik, K.H. (Some observation on the ecology of *Glossina fuscipes fuscipes* in Bhar El Jebel State, Sudan, *ISCTRC*; Publication No: 120, Page 176-183...
53. **Intisar E. El Rayah***; Ronald Kaminsky; Cecile Schmid; Khitma H. EL Malik (1999). (Drug-Resistant in Sudanese Trypanosoma evansi). *Veterinary Parasitology*, 1999,80, 281-287
54. **I.E., El Rayah*** and R. Kaminsky -The Effect of Diminazene aceturate and Isometamidium chloride on a cultured procyclic form of susceptible and drug-resistant *Trypanosoma congolense*. *Acta Tropica*, 49 (1991) 201 - 213.

*Principal investigator of the project

Co-investigator of the project

Books

2. **-Mubarak Abdelrahman & Intisar Elrayah** (Investigation on T. Evansi Infection in Humans & Camels in Sudan: using conventional techniques and new advanced diagnostic techniques (LAMP & PCR). Published by **Amazon. Co. UK (2012)**.

Articles in Published Newsletters

3. **Intisar E. Elrayah (2004)**. (Human African Trypanosomiasis), Half monthly News Letter, Ministry of Science & Technology, No. 10, pages 4-6.
4. **Intisar E. Elrayah (2007)** High light on Sudan (sleeping sickness situation), DNDi/ HAT Platform Newsletter, issue No. 2 august 2007 page 1-2.

Workshops & Conferences Papers and Presentations

1. **Intisar Elrayah (2022) delivered a** workshop entitled KPIs and Benchmarking organized by the Deanship of Development and Quality, Shaqra University March 2022
2. **Intisar Elrayah (2019) delivered a** workshop entitled (**Research Ethics**) on Tuesday, **19 February 2019**, for two hours - Dawadmi governorate organized Deanship of Scientific Research Shaqra University, KSA
3. **Intisar Elrayah (2019) delivered a** workshop entitled (Scientific citation) on 8/12/2019 for two hours - Dawadmi governorate organized the Deanship of Scientific Research Shaqra University, KSA
4. **Intisar Elrayah (2017) (How to Write a Research Proposal)** College of Applied Medical Science, Dawadmi, Shaqra University. **KSA.**
5. **Intisar Elrayah (2013) (Strategies to Secure Funding For Research)** presented in Scientific Research Workshop organized by College of Applied Medical Sciences for Girls (Dawadmi), Shaqra University, from 14-16 Safar 1435 H (17-19 December 2013).KSA
5. **Intisar Elrayah**, Sofia Bashir, Mubarak M Abdelrahman, Abdel Muhsin Abdel Muhsin(2011) Situation of Human Babesiosis in central Sudan, LB-2237 – abstract book, 60 annual meeting of the American Association of Tropical Medicine, 4-8 Dec, Philadelphia, PA, USA
6. **Intisar Elrayah (2010)** Sudan Research Activities on Trypanosomiasis & Tsetse EANETT /HAT platform conference, Nairobi, Kenya 2-6 Oct. 2010.
7. Asaad Khalid, **Intisar Al-Rayah** and Migdam E. Abdelgani (2010) National Center for Research proposed ANDI center of excellence in drug discovery and diagnostic innovation, African Network on Drug discovery & innovative Diagnostic meeting, Nairobi 12-14 Oct 2010
8. **Intisar Elrayah (2010)** Trypanosomiasis & tsetse situation in Sudan, Bill Gate project Meeting: Xenomonitoring techniques in tsetse, Nairobi, Kenya, 28-29-2010
9. **Intisar Elrayah**, (2009), *T. evansi* diagnostic techniques, non-tsetse, Paris, France 23-29 May,
10. **Intisar Elrayah** (2009), Current situation of Trypanosomiasis research, PATTEC meeting, Juba, Sudan, 27-28 April 2009.
11. **Intisar Elrayah**, HAT platform activities in Sudan, Nairobi, Kenya 22-28 June 2009.
12. Mubarak A/Rhman & Intisar Elrayah (2009) ISCTRC meeting, Kampala, Uganda, 22-25 Sep, 2009
13. **Intisar Elrayah (2007)** HAT platform steering committee meeting Basel, Switzerland June 2007.

- 14. Intisar Elrayah**(2007) HATplatform conference Khartoum Sudan, 28 Nov-2 Dec 2007.
- 15. Intisar Elrayah** (2006) Prospects of Sleeping Sickness Research in Southern Sudan (Diagnosis, Clinical trails) 4th Regional Sleeping Sickness Meeting, Juba 25-27 July 2006.
- 16.** Mohammed Y.O., Mohamed-Ahmed M. M.; Mohamed T. A.; **El Rayah I. E.**Tsetse fly Mapping in Equatoria Region.4th Regional Sleeping Sickness Meeting, Juba 25-27 July 2006.
- 17.** Mubarak Mustafa, **Intisar E. Elrayah** (2006).Diagnosis of Sleeping Sickness in Central Equatoria 4th Regional Sleeping Sickness Meeting, Juba 25-27 July 2006.
- 18.** Mubarak M. Abdelrahman, Lubna T. Karamallah, Eltayeb E. Guma, **Intisar E. Elrayah.** Evaluation of ELISA as a prospective new lab diagnostic technique for sleeping sickness. 8th Scientific Conference of the National Centre for Research: 21st-23rd August 2007, Friendship Hall, Khartoum.
- 19.** Lubna T. Karamalla; Gregory W. Dumo, Mubarak M. Abdelrahman, **Intisar E. Elrayah,** Passive surveillance of sleeping sickness in Juba Teaching Hospital Southern Sudan using ELISA and PCR Techniques, 8th Annual EANETT Conference, Kampala, Uganda 18th -20th September 2006.
- 20.** Mubarak M. Abdelrahman, Mohamed A. Tibin, Lubna T. Karamalla, **Intisar E. Elrayah.** Do cattle act as a reservoir of sleeping sickness in Southern Sudan, Annual EANETT Conference, and Kampala, Uganda 18th -20th September 2006.
- 21.** Mubarak M. Abdelrahman&**Intisar E. Elrayah,** Serological evidence of *T. evansi*Infections in camel and their herders in Sudan. 9th EANETT Conference 24th-26th October 2006. Dar es Salam, Tanzania.
- 22. Intisar E. Elrayah**andKhitmaH.EL Malik. (Studies on some Trypanocidal Drugs of Trypanosomabruceievensi: Symposium on drug use strategies.MANR7SVA/Rhone Merrieux, 17 - 19 December 1990. Khartoum, Sudan.
- 23. Intisar E. El Rayah,** Khitma. H. El malik, Cecile Schmid., Ronald Kaminsky (Characterization of Antrycide drug-resistant *T.evansi*) (Proceedings of3rd All Africa Conference on Animal Agriculture and 11th Conference of the Egyptian Society of Animal Production, 6-9 November 2000, Alexandria, Egypt
- 24. Intisar E ElRayah;** Khitma H. Elmalik; Cecile Schmid; Ronald Kaminsky. (Characterization of Suramin-drug-resistant *T.evansi*). Abstracts, Of 4th Cost-B9 Congress on Antiprotozoal Chemotherapy, 6 to 9 May 2001, Lisbon, Portugal, Page –19.

25. Mubarak M. Abdel Rahman, Khitma H. Elmalik, **Intisar E. Elrayah**. (Effect of Triquin-Ethidium Combination on *T. evansi*. Abstracts, Of 4th Cost-B9 Congress on Antiprotozoal Chemotherapy, 6 to 9 May 2001, Lisbon, Portugal, Page –68.
26. **Intisar E. ElRayah**, YassirO.Mahommed, Mubarak M/Rhaman, Khalil M Khalil, Suad M. Sulaiman, Khitma H. EL Malik (2002)STUDIES ON THE PREVALENCE OF SLEEPING SICKNESS IN SOUTHERN SUDAN, 4th Annual EANETT workshop, Tororo, Uganda, Oct. 27 – Nov. 02, 2002
27. Khitma Hassan Elmalik, **Intisar Elrayah**, Ahmed Hussien A/Rahman (2002), RECENT ADVANCED IN SITUATION OF TRYPANOSOMOSIS RESEARCH IN SUDAN4th Annual EANETT workshop, Tororo, Uganda, Oct. 27 – Nov. 02, 2002
28. Yassir O. Mohammed; Mohammed M. Mohammed; Khitma H. El Malik; Suad M. Suliaman; **Intisar E. ElRayah**(2002), PRESENT TSETSE SITUATION IN BAHER ELJABEL STATE, SOUTHERN SUDAN4th Annual EANETT workshop, Tororo, Uganda, Oct. 27 – Nov. 02, 2002
29. Khitma Hassan Elmalik, Yassir O. Mohammed; **Intisar Elrayah**, Ahmed Hussien A/Rahman (2002), UPDATING KNOWLEDGE ON TSETSE IN TWO LOCATIONS IN SUDAN4th Annual EANETT workshop, Tororo, Uganda, Oct. 27 – Nov. 02, 2002
30. **Intisar E. El Rayah (2003)**. Country Report (Recent situation of Sleeping sickness in Bahr Eljabel State. Proceedings of 5th EANETT workshop, Bogymoya, Tanzania. 20-25 Oct.2003.
31. Khidir A. Khidir, Mubarak M. AbdelRahman, Hosham M. Osman, **Intisar E. Elrayah**(2003). A review of treatment schedules and follow-up of sleeping sickness patients in Juba hospital Southern Sudan. Proceedings of 5th EANETT workshop, Bogymoya, Tanzania. 20-25 Oct.2003.
32. Hosham M. Osman; Mubarak M. Abdelrahman; **Intisar E. Elrayah**(2003) The Socio-economic Characteristics of Population and their Knowledge about Sleeping Sickness in BaherEljabel State. Proceedings of the national infectious diseases conference, Khartoum, Sudan, May 2003.
33. .Khalil M. Khalil: A/Aziz A. Ahmed; **Intisar E. Elrayah**(2003), Prevalence of *Toxoplasmosis gondii antibodies* in camels and their drivers in three ecologically different areas in Sudan, Abstracts book, Conference of endemic diseases, Khartoum Sudan, 4-7 May 2003-08-14.

Thesis

1. **Intisar E. El Rayah**(1990). Studies on Assessment of Drug resistance in *Trypanosoma brucei evansi* and *Trypanosoma congolense*-M. SC Thesis February 1990, University of Khartoum/ILRAD Nairobi, Kenya.
2. **Intisar E. El Rayah**(1997). (Some Epidemiological Studies on Drug-resistant *Trypanosoma evansi* isolated from Sudan) Ph.D. thesis July 1997, University of Khartoum/Swiss Tropical Medicine, Basel, Switzerland.

Technical Reports

1. Technical Report (Studies on population dynamics, population structure, mortality rates, and feeding behavior of Glossina species (Diptera: Glossinidae) in the Equatoria States) Project no. ID 990917,T16/181/530 Funded by TDR/WHO , **Intisar ElRayah**(2001)
2. Technical report (Mapping out of Sleeping Sickness foci in Juba region, southern Sudan). ,**Intisar ElRayah**(2002)
3. Sleeping sickness Survey in Bahr ElJabel state, Mission Report, Funded CDS/CSR/EPHC/WHO **Intisar El Rayah& Nabil Aziz** 4th -18th Jan. 2003-
4. Periodically and half annual scientific reports submitted to EANETT 1999- 2007 **Intisar E. Elrayah**, PI for EANETT projects.
5. Final technical report: Serial number: SGS03/50 Project Title: (Evaluation of the diagnostic for Human African Trypanosomiasis in Bahe El Jabel State, Southern Sudan) WHO/EMRO/TDR/SGS. March 2005. **Intisar E. Elrayah**,
6. EANETT Report: Six Years of Success, **2006 Dr. Intisar El Rayah**, RetoBrun-., Marcel Kaiser Joseph M. Ndungu., Edward Ssewanyana,.,AtwayMsangi,, Chisi- College of Medic., Grace Murilla-

Appendix 1:

❖ Supervision &Co-supervision Postgraduate Students

❖ Master

Awarded

1. Dura Mohammed Tibigat. Toxoplasmosis and *P. falciparum* malaria are risk factors for abortion in pregnant Sudanese women. Academic institution: Sudan Academy of Science. Degree registered for: M. Sc, Epidemiology, (2015)

2. Mohamed Bashir (Epidemiology of TB in Gadarif State, Sudan)Academy of Science.
Degree registered for: M. Sc, Epidemiology, (2014)
3. AtifElamin: M.Sc. (Trypanosomiasis situation in Equatorial State and Khartoum state),
University of Khartoum (2000).
4. Mubarak Mustafa. Abdelrahman M.Sc. (The effect of drugs and their combination
(Ethidium&Quinapyramine) on *Trypanosoma evansi*), University of Khartoum, (2002)
5. Khalil Mohammed Khalil; M.Sc. (Sero-epidemiological studies on the Toxoplasmosis in
Khartoum state), Khartoum university (2004).
6. Gregory WaniDumo: M.Sc. (Evaluation of the sensitivity of parasitological to diagnose
African human Trypanosomiasis (sleeping sickness)), University of Juba, (2003).
7. Mohamed Ahmed TibinAzrag: M.Sc: (Role of a domestic animal as the reservoir of
sleeping sickness in BaheEljable State, Southern Sudan) the University of Khartoum,
(2002)
8. AbeerMahgoub. M.Sc: (Epidemiological study of brucellosis in Khartoum ̈State,
Sudan). Academic institution: Sudan Academy of Science. (2007)
9. Dalia Abdalla. M.Sc: (Antifungal Effect of *Acacia nilotica* against *Candida Albicans*.).
Academic institution: Sudan Academy of Science. (2007)
10. Mona Omer. M.Sc: (Gender implication in tuberculosis infection in Khartoum State).
Supervisor: Academic institution: Sudan Academy of Science. (2007)
11. TarigAbd El RahmanQuamer Mohammed M.Sc: Investigations of *T.evansi* infection
among camel & camel herders in Gadarif state Academic institution: Sudan Academy of
Science. (2007).
12. Mohammed NourEdinAhmed M.Sc: Zoonotic picture of toxoplasmosis in slaughters
house s Khartoum state: Sudan Academy of Science. (2007)
13. EltayebYayaM.Sc.: Epidemiology of Brucellosis (Malta fever) among febrile patients In
Khartoum North.: Sudan Academy of Science. M. Sc (2008)
14. MotasimKoKo .M.Sc (Determination of risk factors affect syphilis infection among blood
donors.Academic institution: Sudan Academy of Science. (2008).
15. YosriIzzeldinM.Sc: Incidence of co-infection of lymphatic filarasis& Malaria in
Khartoum State Academic institution: Sudan Academy of Science. (2008).
16. NuhaAbd Allah Ali M.Sc.: Incidence of *mycobacterium Bovis* among TB patients in
Khartoum State: Sudan Academy of Science. (2009).

17. Mohammed Ibrahim Saeed.Sc: Incidence of haptitiesAmong elevated liver Enzymes in Khartoum Teaching Hospital.Sudan Academy of Science. (2009).
18. Wafa Mohammed Hussien: M. Sc Incidence of Brucellosis among Butchers in Khartoum State Sudan Academy of Science. (2010)
19. Mohammed Farrog Mohammed: M. Sc Assessment of TB treatment interruption factors in, Khartoum State (2010)
20. Mutaaz Mikkei: M. Sc Quality control of Private Laboratories in TB diagnosis in Khartoum State Degree registered for: M. Sc by courses 2010
21. Mostafa Mohammed Ali; M.Sc.: Investigation of Negative TBsputum Smear Results in HIV-positive in Khartoum State, Sudan. Sudan Academy of Science (2011)
22. Sofia Bashir M. Sc. Epidemiology of human babesiosis in Central Sudan. Academic institution: Sudan Academy of Science. M. Sc. (Epidemiology), 2011.
23. Marrowa Ali Balah. Evaluation of the Efficacy of Onsite typhoid IgG/IgM Rapid Test – Cassette in Diagnosis of Typhoid fever, degree registered for M.Sc, Sudan Academy of Science, (2011)
24. Amin Omer Ibrahim Abbas (Assessment of TB iLED fluorescent Microscope in a routine lab. Degree registered for M.Sc, Sudan Academy of Science, (2011)

❖ **Ph.D. Degree**

❖ **Awarded**

1. . Mona Omer (Evaluation and modification of Advanced TB Diagnostics Techniques Sudan Academy of Science. Degree registered for Ph. D. Epidemiology. (2018)
2. Nagam Eldin Mohmed Hassan: Ph.D. (Molecular study of Panton-Valentine Leukocidin genes in Staphylococcus aureus clinical isolates in Khartoum state, Sudan)Sudan Academy of Science. Degree registered for Ph. D. Epidemiology (2012-2015):

3. Mutaz Eldrideri Ph.D.: (Determination & Genotyping of the MDR-TB Smear positive by using conventional and Molecular techniques in Sudan) Sudan Academy of Science. Degree registered for Ph. D. Epidemiology (2011-2015):
4. Yatta Samuel Lukou Ngerja: Ph.D. (Ecological Studies and Molecular Detection of Trypanosomes Parasites in Tsetse flies (*Glossina spp.*) in Kajo-Keji County, Central Equatoria State, South Sudan) Guba University (2010-2015)
5. Selma Ali Ragab:: Ph.D. (Characterization of *T. vivax* drug-resistant isolates), university of Khartoum, 2002-2007 Co-Supervisor
6. Khalil Mohamed Khalil. The Epidemiology of Toxoplasmosis in humans and the role of environmental factors in spreading the diseases. Academic institution: Sudan Academy of Science. Degree registered for Ph. D. Epidemiology (2005-2009).
7. Mubarak Mustafa Abdelrahman. Investigations of *Trypanosoma evansi* in human infections in Sudan. Academic institution: Sudan Academy of Science. Awarded Ph. D. in Epidemiology. (2011)

Appendix 2

External Examiner

1. Anas Mahadi alnazir, PhD.: (Cultivation and molecular characterization of *Giardia* parasite and in vitro sensitivity to selected medicinal plant in Sudan) August 2018, Sudan Academy of Science
2. Ibrahim Norain Mohammed Gamer Eldin MSC: Knowledge, attitude, and practice towards leishmaniasis and phlebotomine sandflies control in internal Displaced people camp Zamzam (A) in North Darfur State, Sudan. July 2012, University of Khartoum
3. Nadia Edris Mohammed Salih M.V.Sc: Infectivity and serological Studies in *Trypanosoma evansi* isolates. , March 2011, University of Khartoum
4. Ebtihal Altayb Ali M.Sc: (The effect of the drug (Cymelrsan) on *Trypanosoma evansi*) University of Khartoum June 2007.
5. Ring Yai Koul, MVSC (Prevalence of cattle's Trypanosomosis along Eastern cattle route (Murhal) of Missrya herds, University of Khartoum. 2007.
6. Nadia Mohammed Osman Mahmoud: M.V.Sc: Thesis title (Some Parasitological and Pathological Studies In Nubian Goats Experimentally Infected with *Trypanosoma vivax*) Feb. 2005. The University of Khartoum.
7. Mohammed Adam: M.V.Sc. Thesis title (Epidemiology of trypanosomal infection in domestic animals in South Darfour State, Sudan). Aug. 2003 University of Khartoum.
8. Adam Darossa: M.V.Sc. : Thesis title (Urine odor change in diagnosis of camel trypanosomiasis- a verification of an ethnoveterinary practice) April 2000. The University of Khartoum.

❖ Internal Examiner

1. Mubarak M. Abdelrahman M.V.Sc. (The effect of drugs and their combination (ethidium & quinapyramine) on *Trypanosoma evansi*). The Aug 2002 University of Khartoum.
2. Khalil Mohammed Khalil; M.Sc. (Sero-epidemiological studies on the Toxoplasmosis in Khartoum state), Jan 2004. University of Khartoum
3. Gregory wani Dumo: M.V.sc (evaluation of the sensitivity of parasitological to diagnose African human Trypanosomiasis (sleeping sickness) Jan 2006. University of Khartoum

4. Mohamed Ahmed TibinAzrag: M.Sc: (Role of a domestic animal as the reservoir of sleeping sickness in BaherEljable State, Southern Sudan) June 2006 University of Khartoum.
5. Lubna tag elsirKaramalla,M.Sc 2008 (Studies on Susceptibility of *Biomphalaria* *peifferi* Snails to *Schistosoma* *mansonii* in Selected Irrigation Schemes in Sudan. Sudan Academy of Science, 2008
6. Khalil Mohamed Khalil. The Epidemiology of Toxoplasmosis in humans and the role of environmental factors in spreading the diseases. Academic institution: Sudan Academy of Science. r: Ph. D. Epidemiology, Sudan Academy of Science - 2009,
7. Sofia Bashir M.Sc Epidemiology Sudan Academy of Science, March 2011

❖ Supervision assistance

1. AtifElamin A/Gadir, PhD 2008
2. Yassir Osman, Ph.D. 2007
3. ElhamAbdalla, Ph.D. 2006
4. Samia Hussien, Ph.D. 2005
5. AmelMahjoub, MSC
6. AtifElamin, M.Sc.

Appendix 3

❖ EANETT Board Meetings Attended

3-HATplatform: Human African Trypanosomiasis Platform

- The HAT Platform was established by the Drug neglected diseases initiative with the participation of five African countries epidemic with sleeping sickness. To enhance the

capacity building in the area of clinical: I have been selected as a member of the steering committee. Our responsibilities are to review the clinical trial activities done in different sites and plan for workshop training, conferences, and publishing of the periodical newsletters of the platform.

-HAT platform Meetings attended:

- ✚ Drugs against neglected diseases (DNDi) meeting/ Pretoria, South Africa, 30th of Sep, 2003. Steering Committee Meeting of HAT platform, 16th-18th February 2006. Angola Luanda.
- ✚ HAT Platform Annual Meeting. Nairobi, 21st-24th August 2006. ○ HAT platform Coordination meeting, Basel, Switzerland, 26-27 June 2007
- ✚ HAT Platform steering committee, Kampala, Uganda, 9-10 Jun, 2008
- ✚ Steering Committee meeting KAMPALA September 2009
- ✚ Steering Committee meeting, Bangui, Central Africa, May 2011
- ✚ Steering Committee meeting, *Ndjamena, Chad*, May 2012

4: Development and application of xenomonitoring tools in HAT control

Programs in endemic countries:

- ✚ • The planning for this project was started in 2006 during EANETT meetings; seven African countries participated in this project under the supervision of Prof. John Enyaru: Makerere University /Uganda. I participate in this project as a Co-investigator. Many meetings were held until we finalized the project and got the fund from Bill gate /Melinda (8000000 Dollars). Our institute share was 854 000 USD dollars. The work on the project was started in 2008.

Meetings attended:

- ✚ Final Xenomonitoring meeting , Uganda, Oct. 29-30 Oct. 2013
- ✚ Xenomonitoring meeting ,Uganda, Sept. 2011
- ✚ Xenomonitoring meeting, Malawi, March 2011
- ✚ Approved work plan workshop(Application and development of xenomonitoring tools in Human African Trypanosomiasis control program in developing countries, Dar es Salaam, Tanzania 16-18 Sep.2010.

- ✚ Planning workshop for the (Application and development of xenmonitoring tools in Human African Trypanosomiasis control program in developing countries, Kenya, Nairobi 23-25-Jan 2010. supported from other resources
- ✚ Inception workshop for approved research projects: BMGF/HAT project : (Application and development of xenmonitoring tools in Human African Trypanosomiasis control program in developing countries Annual meeting, 28-29th January 2009 at ICIPE, Kenya

4. Comparative population structure and phylogeography of trypanosomes and their tsetse fly vectors, PI Johnson Ouma, Funded by BECA/NEPAD/AU (200 000 Us Dollars) 2007-2009:

- ✚ Four African countries participating in this project: Kenya, Sudan, Tanzania, Uganda
- ✚ I participated in this project as a Co. investigator; many meetings were held to finalize the project & to follow its progress; *two* Sudanese Students(Ph.D. & MSc Students) were funded within this project.

5-WHO: I participated in different WHO meetings held in the region as Expert in sleeping sickness:

Meeting *attended*

- ✚ Meeting of WHO on surveillance and control of sleeping Sickness, Ouagadougou, Burkina Faso, 29th of Sep. 2001.
- ✚ Satellite meeting on sleeping Pretoria, South Africa, 3rd of Oct. 2003
- ✚ Round table of the O.I.E. and hoc Group on non-tsetse transmitted animal trypanosomes(NTTAT), Pretoria, South Africa, 30th of Sep. 2003
- ✚ Scaling up sleeping sickness control activities in Southern Sudan, Experts meeting organized by WHO, Nairobi, Kenya, 1-3 March 2004. • 4th West Nile Focus Regional Sleeping Sickness Meeting, Juba, Sudan, 25th – 27th July 2006, • PATTEAC meeting Juba, 26-30 April 2009; PATTEC invited me to attend this meeting as an expert in sleeping sickness to participate in Strategy planning for tsetse & Trypanosomiasis control in southern Sudan

2. Other Experts Meetings related to research activities:

1. The EACIDS Regional Workshop 3-4 March 2010, Kampala, Uganda.

I invited as critical stakeholders to support the idea of the proposed Eastern African Center for Infectious Disease Surveillance and Response (EACIDS) and develop the business plan and formation of the EACID me. MMyinstitute has been selected as the focal point for the three sectors in infectious diseases (Plant, Human, Animal).

2- The 2nd ANDI, the ‘African Network for Drugs and Diagnostics

Innovation(ANDI) Stakeholders meeting, Cape Town, South Afric, a from 4th –7th October 2009.

- The African Network for Drugs and Diagnostics Innovation” seeks to „create a sustainable platform for R & D Innovation in Africa,” launched in Abuja in October 2008 with the support of several African institutions, scientists, policymakers, World Health Organization, WHO/TDR and others. The ANDI task force invited me to this meeting as a stakeholder to discuss and finalize the strategic and business plan for ANDI. •

The 3rd ANDI, the ‘African Network for Drugs and Diagnostics Innovation(ANDI) Stakeholders meeting, Nairobi, Kenya, 11-14 Oct.2010

3- First Coordination Meeting of the RAF6040 (AFRA); Rabat Morocco 14 –18 Dec 2009 The 1st meeting of the project enentitled (Applying Molecular Techniques to Interventions against the Major Poverty Related Diseases (TB and Malaria) for Improving Disease Control”

- ✚ I attended this meeting as a country project coordinator. More than ten countries participated in this project. During this meeting, the country's situation with the diseases was presented,d plus challenges faced by control programs. The plan for the next year was discussed. Training opportunities were identified. The case of recruitment of equipment & chemical & reagents was clarified. Planning for the rest of the three years was done.

Donors meeting for the SIT project, 20 November 2007, Hilton Hotel, Khartoum, Sudan:

- ✚ I participated in this meeting as director of the institute to encourage donors to support the sterile male Techniques project (STI).

Appendix 4

Abroad training of researchers and students within research projects(

1. • Yassir Osman Mohamed, Soba Veterinary Research Laboratory, and Khalil Mohamed Khalil Ismail Biotechnology commission, attended KETRI/Gath/EANETT training course in “GIS Data Management-GPS, MapInfo, Arcview, CAD” held in Nairobi, Kenya, from 9th-20th July 2001.
2. • Gregoraywani, Ministry of health Juba and RhamaElTigani: Trypanosomiasis&tsetseKetri Kenya
3. • .Yassir Osman Mohamed Mustafa KETRI/ EANETT an attachment training course of four weeks duration in "trypanosome detection techniques with special emphasis on PCR" held in Kenya at KETRI within EANETT activities, from 3 to 31st March 2004.
4. • Mohamed TibinAzrag Workshop on scientific writing and presentation sponsored by EANETT/ Swiss Development Cooperation, in Machakos, Kenya, from 16th – 24th 2004.
5. • Khalil M. Khalil attended 4 months of training in toxoplasmosis reference Laboratory on toxoplasmosis diagnostic techniques, Purge Czech 2008, as part of his PhD
6. • Mubarak Mustafa. Clinical trials monitor training courses. 3 – 6 March 2008; Kampala, Uganda. Organized by KARI institute Kenya and supported by HAT Platform and DNDi organization. Within HATplatform activities
7. • LubnaTagelsirKaramalla.Training Course on Bioinformatics Tools for Comparative Genomics of Vectors, Sponsored by UNICEF/ UNDP/ WorldBank/ WHO Special Program for Research and Training in Tropical Diseases (TDR).South African National Bioinformatics Institute, University of the Western Cape, Cape Town, South Africa, 4-8th August 2008.
8. • Mubarak M. A/Rahaman, Tropical Medicine Research Institute &RahamaElTigani (Federal Ministry of Health attended Course on Molecular Biology at KETRI (Kenya Trypanosomiasis Research Institute). Muguga-Kenya from 23.07.2001 – 03.08.2001.
9. • AdilElamin (Federal Ministry of Health) and Mubarak M. A/Rahaman, TMRI: attended the Third international course on African trypanosomes in Lisbon, Portugal, from12.05 to 30.05.2003.

10. • Mubarak M.A/Rahman&AtifElamin University of Khartoum Introduction courses for HAT Capacity Strengthening, Trypanosomiasis Research Centre (KARI) 29th Jan – 17th Feb. 2006.
11. • Gregory Wani&RhamaElTigani attended Clinical monitors training, organized by KARI, DNDi, and HAT Platform,
12. • 3rd – 6th March 2008, Equatorial Hotel, Kampala, Uganda.
13. • Mubarak M. Rhaman: Training on LAMP technique, Hokkaido and Obihiro Universities, Japan, 8th August to 26th August 2009.
14. • Mubarak M. Rhaman Training on LAMP (PRIME), Makerere University, Uganda, 10 -21 November 2009.
15. • Mubarak M. Rhaman Training on PCR technique at Tropical Institute, Antwerp, Belgium, 17th December 2009 to 16th February 2010

Appendix 5

Conferences

- ✚ 60 annual meeting of the American association of tropical medicine, 4-8 Dec 2011, Philadelphia, PA, USA
- ✚ Nanomedicine workshop, Pretoria, South Africa, March 2011.
- ✚ 3rd ANDI conference, Nairobi, Kenya, Oct. 2010
- ✚ EANET /HATPlatform annual conference, Oct 2010, Nairobi, Kenya
- ✚ 2nd ANDi(Africa network for drugs& diagnostics) conference, South Africa, Sep.2009 •
- ✚ 10th Annual EANETT Conference, Mombasa, Kenya, Nov. 25 – 27, 2008. 11th INTERNATIONAL SYMPOSIUM ON NATURAL PRODUCT CHEMISTRY (ISNPC-11), October 29 to November 01, 2008.
- ✚ 9th EANETT Conference 24-26 October 2007. Dar es Salam, Tanzania,
- ✚ 8th Annual EANETT Conference, Kampala, Uganda 18th -20th September 2006,
- ✚ 25th Scientific African Conference, Nairobi, 21st -24th August 2006
- ✚ 6th Annual EANETT conference, 29th Nov.-1st Dec 2004, Khartoum, Sudan.
- ✚ 2nd National conference on health research, held by Federal Ministry of Health, Khartoum, Sudan, 24th Jan. 2004

- ✚ 1st International conference on Tropical & infectious diseases, Khartoum Sudan, 17th -19th January 2004.
- ✚ 27th International Scientific Council for Trypanosomiasis Research and Control, (ISCTRC), 1 International Conference, Pretoria, South Africa, 29th Sep-5th Oct. 2003
- ✚ National Conference on endemic & infectious diseases, May 2003 Khartoum, Sudan
- ✚ 26th International Scientific Council for Trypanosomiasis Research and Control, (ISCTRC), 1-5 Oct. 2001, Ouagadougou, Burkina Faso.
- ✚ 4th Cost –B9 Congress on Antiprotozoal Chemotherapy, 6-9 May 2001, Lisbon, Portugal.
- ✚ 3rd All Africa Conference on Animal Agriculture and 11th Conference of the Egyptian Society of Animal Production, 6-9 November 2000, Alexandria, Egypt.
- ✚ 25th International Scientific Council for Trypanosomiasis Research and Control, (ISCTRC), Mombasa, Kenya, 27 Sept. –1 Oct. 1999.
- ✚ Informal Network of Eastern African Trypanosomiasis Research and Control, Nairobi, Kenya, 30 May- 1 St June.1999.

❖ Workshops

- ✚ Xenomonitoring workshop: on the use of LAMP technique for detection of trypanosomes, Kampala, Uganda, 1-7 May 2011
- ✚ A one-day workshop in Clinical Trial Practice was held on 22nd August 2006 . *T. b. gambiense* workshop: cryo-preservation, propagation, isolation, drug sensitivity
- ✚ Workshop “Standardizations” in Mombasa, Kenya, November 14-16, 2005 •
- ✚ 5th EANETT workshop, Bagomyoua, Tanzania, 22-25th Oct 2003 •
- ✚ 4th EANETT workshop 27 Oct-2 Nov. 2002, Torororo, Uganda
- ✚ EANETT workshop 30 Sep. 2001. Ouagadougou, Burkina Faso
- ✚ Workshop of Eastern African Network of Trypanosomiasis, 13-15, November 2000, Nairobi, Kenya.
- ✚ • Symposium on Drug Use: Strategies for the Control of Animal Trypanosomosis at Khartoum, Sudan, and January 17-19,1990
- ✚ Workshop on chemotherapy of Trypanosomiasis held at ILRAD Nairobi, Kenya, on August 21-24, 1989.

Periodical internal meetings attended

- ✚ • Meetings of National Centre for Research Directors" council
- ✚ • Meetings of the Council of Biosciences, Advanced Technology & Environment
Sudan Academy of Sciences
- ✚ • Meetings of the Board of Examiners of the Tropical Medicine Program, Sudan
Academy of Sciences
- ✚ • Meetings of Academic Committee, Sudan Academy of science
- ✚ • Researchers council meetings in Tropical Medicine Research Institute

Appendix 5

Membership in committees& organizations (Sudan) • Member of the ministerial council of the Ministry of Science &Technology, 2010-

- ✚ • Member of the National Committee for the development of the National;
Strategy in Medical Research in Sudan, Federal Ministry of Health – 2009
- ✚ • Member of the Ethical Committee of the Tropical Medicine Research institute
2007-
- ✚ • Sudanese Society of Tropical Medicine. 2001-
- ✚ • Sudanese veterinary association.1999
- ✚ • Research consultant for the Federal Ministry of Health from 2000-
- ✚ • Member of the scientific committee of 4th scientific conference of the National
Centre of Research held on 6th -8th 1999, Khartoum, Sudan
- ✚ • Member of Technical committee of the national control program of sleeping
sickness 2002- 2012
- ✚ • Member of the technical committee of the Tsetse control program 2002.
- ✚ • Member of the National Committee for developing the National Strategy for
Vectors control. MOST – Republic of Sudan 2002-2012
- ✚ • The team leader of the Sleeping sickness mission to Bahr Ellabell 1999-2003
- ✚ • Supervise Sleeping Sickness mission for Two WHO experts to Bahr Eljabel
state, Jan 2003
- ✚ • Member of a task force of lymphatic filariasis 2006-2012.

- ✚ • Member of the steering committee of onchocerciasis national control Program 2008
- ✚ • Member of the scientific committee of 4th scientific conference of the National Centre of Research held on 6th -8th 1999, Khartoum, Sudan
- ✚ • Member of the Steering committee 5th scientific conference of the National Centre of Research held on Nov 2004, Khartoum, Sudan
- ✚ • Head of the scientific committee of the 7th scientific conference of the National Centre of Research held in August 2007, Khartoum, Sudan
- ✚ • •□ Member of the Committee formed by the National Centre of Research to put a regulation for the Abroad meetings & conferences participation 2007

Appendix 6

5. Achievements

Research Achievements

❖ Research Achievements (See Appendix 6)

❖ Trypanosomiasis& Tsetse

❖ Human African Trypanosomiasis projects

- ❖ Within The Last 12 years, I worked in the field of Sleeping sickness & tsetse flies Research in Southern Sudan during War & Peace. I have been recognized by international organizations working in this field as a focal point of sleeping sickness research in Sudan, so I achieved this in:
 - Determination of the prevalence rate of sleeping sickness in Central Equatorial (previously Bahr Eljabel State) during 1999-2004.
 - Provide high-quality training for staff working on the control of sleeping sickness (MSC program, international courses, and workshops
 - A diagnostic strategy for surveillance of HAT in a low-endemic region has been established.
 - Introduction of new diagnostic techniques (CATT/Tr, mACET) for HAT diagnosis
 - A protocol for case detection under field conditions and follow-up was developed and established for the first time in Sudan.

- Factors influencing the prevalence of *Trypanosoma brucei gambiense* sleeping sickness in Juba county, Bahr El Jebel State, Southern Sudan, were assessed involving occupation, location, vegetation within site, displaced or resident populations, gender, and age group.
- Testing of new diagnostic techniques to implement in the field (ELISA)
- A PCR unit and protocol for trypanosomes involved in sleeping sickness identification were established for the first time in Sudan.

👉☐✌️■♾️d provide reagents & chemicals for the work.

- Establishment of the mobile team capacity by training the personnel (technicians, lab assistants)
- Increase population awareness nationally & internationally about the magnitude of the disease.

$\clubsuit \mathfrak{M} \quad \mathfrak{S} \square \mathfrak{M} \quad \blacklozenge \square \mathfrak{S} \times \blacksquare \times \blacksquare \mathfrak{V}$ The health workers assist in diagnosing the disease in the early stages.

- The role of the domestic cattle in Juba sleeping sickness focus was investigated thoroughly using the standard parasitological techniques and PCR technique for detecting infection and identification of trypanosomes species involved.
- The level of common awareness regarding the disease control tools and procedures varied between the localities and within the individuals.

❖ Camel Trypanosomiasis projects

- Mapping of Camel trypanosomiasis drug resistance phenomenon in Sudan
- Establishment of the tissue culture system for screening of trypanocide drugs for the first time in Sudan in 1999
- Introduction of highly advanced diagnostic techniques (LAMP/Trypanolysis test) in the screening of camel trypanosomiasis
- Ongoing studies on the zoonotic picture of *trypanosoma evansi*

❖ Tsetse Flies projects

- Mapping of some locations of *G. f. fuscipes* in Bahr ElJabel State
- Updating the tsetse belt in Central Equatoria, Southern Sudan, which was not updated since Lewis 1949 Only *G. f.* encountered in Bahr El Jabel State during this study the further northern advance of *G. f. fuscipes* of about 29 and 48 km along River Bahr El-Jebel and River Luri, respectively
- apparent efficiency of Biconcal, Vavoua, monoconical, mono screen, Nzi& Epsilon against *G.F.fuscipes* and associated biting flies was estimated

- Distribution and habitat of occurrence of tsetse fly in Bahr ElJabel State has been well known
- Vectoral capacity & infection rate was estimated using PCR
- Mapping of tsetse flies in the Blue Nile Area
- Through our activities on sleeping sickness, We succeeded in joining the HAT platform, another network; the goal of this net is to enhance the building capacity for the clinical trial of sleeping sickness
- We worked as a research team with our African colleagues, and we applied jointly for many research grants; we got two; one from the BECA network and the other from BELL & Malinda gates

❖ Other Projects

❖ Toxoplasmosis Projects

We Brought attention to the most important zoonotic disease affecting childbearing age women by conducting basic surveillance in hospitals, rural and urban areas and acting as a research reference lab for diagnosis of toxoplasmosis,

❖ Within our research projects findings, we achieved this;

- *Toxoplasma gondii*, as a causative agent of the zoonotic disease, was very important in childbearing age women in Khartoum & Gezeeria areas.
- The prevalence rate of toxoplasmosis was determined in Khartoum & Gezeera States.
- CFT and ELISA IgG techniques were the best tests for screening this disease due to their high sensitivity and specificity, simplicity, and ease of performing.
- A diagnostic protocol for the Detection of acute toxoplasmosis was possible, particularly in pregnant women and newborns.

❖ Tuberculosis projects

Recently I have been involved in tuberculosis from an epidemiological and zoonotic view to elucidating the role of the animal in the transmission of this debilitating disease and also my interest in Chemotherapy (Drug-resistant phenomenon), diagnosis, the socio-economic impact of the disease;

- *M. Tuberculosis*, the predominant *mycobacterium complex spp*, affects TB patients in Khartoum State.

- Practical implications for improving gender sensitivity and the overall effectiveness of TB control were assessed.
- Critical links between the interests of TB control, gender studies, and the sociocultural contexts of poverty were documented,
- Evaluation & assessment of new TB advanced diagnostic Techniques ongoing
- Mapping of TB MDR strains in Eastern Sudan is ongoing.

Appendix 7

❖ Management achievements

During my supervision of the college of applied medical science, girl Branch, Dawadmi, Shaqra University, Saudi Arabia(2014-2018) as deputy dean of the college and head of the girl branch, I succeeded in Enhance the building capacity of the college by improving the academic environment of the Students & teaching staff by :

- 1- Establishing new committees in the college to advance the curricula and ex-curricula activities in the college (scientific committee & Monitoring & follow up committee)
- 2- Establishment of a statistical unit to enhance the work of the accreditation unit
- 3- Activate the role of the college in the community by participating with governmental and non-governmental bodies in all national and international events.
- 4- The encouragement of the students in participating in all university scientific events
- 5- Development of the exemplary student award in the college

❖ During my Supervision of The Tropical Medicine Program, Sudan

Academy of Science 2007-2012

- ✚ More than 200 M.Sc students by courses have been graduated from the Microbiology, Immunology, and Medical Parasitology I Tropical

Medicine Program at Sudan Academy of Science within my coordination period from 2007 –to 2012

- ✚ the Sudan Academy approved 200 dissertations in different biomedical sciences my of Science under my coordination and leadership of the tropical Medicine program
- ✚ 20 PhDs and 40 M.Sc. students have graduated by research in different disciplines of tropical Medicine program
- ✚ Enhancement of the building capacity by improving the education environment, rehabilitation of Labs, and lecture rooms, securing IT labs
- ✚ Updating & revising the syllabus every year

Within my Directorship of the Tropical Medicine Research Institute (TMRI) for the period 2007-2012

Building Capacity

- ✚ • Establishment of a new department: clinical studies department in the Institute based on the Tropical Diseases teaching Hospitals (TDTH)premises
- ✚ • The Federal Ministry of Health finally agreed to return the TMRI laboratories to TDTH premises.
- ✚ • Rehabilitation of Immunology & Molecular Dept. Labs.
- ✚ • Establishment of TMRI web page (www.tmri.sd).
- ✚ • Establishment of Computer lab (20 computers + internet connection)
- ✚ • TMRI got external funding for four projects from IAEA, EMRO/WHO, and Bell Gate & Malinda.
- ✚ • New equipment purchased; this includes Autoclave & electrical pipettes, 10 Zeiss Microscopes, ELISA Washer & reader, Gel Documentation System, bought by NCR.
- ✚ • Elneefdi Group has donated a four-wheel-drive car to TMRI
- ✚ • Five assistant researchers were promoted to Researchers in 2008 and 2009.

National & International Links

- ✚ • I chaired the group nominated to prepare the National center document for selection to be a center of excellence for the African Network on drug discovery and diagnostics innovative(ANDI) in July 2010; the work has been done successfully

✚ MOUs

- ✚ • I Signed MOU with Tropical Diseases Teaching Hospital in Omdurman in 2009
- ✚ • I Signed MOU with the Faculty of Medicine, Juba University, 2008
- ✚ • I Signed MOU with Dr. Panjwani Centre for Molecular Medicine & drug research, International Centre of chemistry& biological science, University of Karachi, Pakistan, in Nov 2008
- ✚ • MOU with Ministry of Animal Resources, Southern Sudan March 2010

Training & scientific Contribution

- ✚ Finalization of biennial reports 2006-2007, 2008-2008
- ✚ TMRI Staff has published More than 50 scientific publications since 2008 in peer-reviewed Journals (see Attached report)
- ✚ In addition to the existing Immunology & Microbiology courses new MSc course: Medical Parasitology, has been established under the umbrella of the Tropical Medicine Program/Sudan Academy of Science
- ✚ 100 Students in BATCH II & III, IV, V in Microbiology & Immunology MSc courses graduated in NOV 2008, Feb .2009.2010, 2011
- ✚ ten 10 master's students by research (TMRI staff) were awarded their degrees in 2008 & 2009, 2010.
- ✚ TMRI staff participating in lecturing & examining students in international master courses (detailed in the scientific report)
- ✚ Many expert missions in & out of TMRI took place in 2008-2009, and 2010 (detailed in the scientific report)
- ✚ TMRI staff participated in National & international events in 2008 & 2009, 2010.

❖ **As head of Department of Vector & biomedical Research period**

2002-2007

Establishment of surveillance team:

Establish a permanent mobile team for sleeping sickness surveillance in Bahr Eljabel state by recruiting personnel and training them nationally and internationally.

Establishment of Laboratories

- Establishment of Vector & biomedical studies Lab. In the Tropical Medicine Research Institute (list of Equipment attached)

- Establishment of the diagnostic unit of sleeping sickness in Juba reference Laboratory, BaherEljabel State by providing Equipment: Microscope, Liquid nitrogen container, rotator, Microheamtcrif centrifuge, centrifuge, Generator (list attached)

Establishment of International Links with institutions:

- Swiss Tropical Institute, Basel, Switzerland (1995-present)
- Institute of Tropical Medicine, Antwerp, Belgium(2003-present)
- Kenya trypanosomiasis research institute (1999- present)
- Makreere University Uganda
- Tsetse &Trypanosomiasis Research Institute (TTRI) Tanzania

Establishment of links with National &international organizations:

- Benevolence international foundation, Sudan office
- EANETT (Eastern Africa Network for Trypanosomiasis)
- WHO/ Sleeping sickness, Surveillance, by considering the TMRI as a sleeping sickness focal point
- Human African Trypanosomiasis (HAT)-Platform /DNDi
- African network for drug discovery &diagnostics innovative (ANDI)

Link with national research institutes

- Connection with the dept of preventive medicine and public health, Fac. Of Veterinary Science, University of Khartoum
- Association with Dept of Parasitology, Fac. Of Veterinary Medicine, Sudan university
- Link with Zoology dept., Fac. Of science, University of Khartoum
- Connection with Dept. of Tsetse&Trypanosomiasis. Soba veterinary Research Lab.