International Conference on Parasitology

August 24-26, 2015 Philadelphia, USA

(**Theme:**Addressing New Challenges and Emerging Issues in Parasitology)

Summary

Parasitology is the study of parasites which include the bacteria, fungi, protozoa and metazoa which infect host species. Although parasitic infections occur globally, mainly occur in tropical regions, where there is poverty and personal hygiene. OMICS International Conference is a great platform in Philadelphia for researchers to explore knowledge and get new ideas to fight against these infectious diseases.

Philadelphia is the largest city in the Commonwealth of Pennsylvania, the fifth-most-populous city in the US. According to 2001 year report, parasitic diseases is still an important human diseases.Worldwide 210 million people reside in the endemic areas of malaria, 10 million cases with malaria occur every year; 20 million infected individuals was estimated in the world. Approximately 1,300 cases of malaria are reported each year in the US. Total US Bilaterial Funding for malaria is 852 US Billion Dollars and total International Funding for malaria is 2000 US Million Dollars.The market value of antiparasitic drug in US is 27,782 thousands US Dollars and in India it is 11,090 thousands US Dollars.

For more details please visit- http://parasitology.conferenceseries.com/index.php

Importance & Scope

Philadelphia is the largest city in the Commonwealth of Pennsylvania, the fifth-most-populous city in the US. OMICS International Conference is a great platform in Philadelphia for researchers to explore knowledge and get new ideas to fight against these infectious diseases. Approximately 1,300 cases of malaria are reported each year in the US.There are two major universities in Philadelphia:University of Pennsylvania, Drexel University whose research interest range from the genetic basis of drug resistance in protozoan parasites to the mathematical modeling of helminth transmission within host populations and understanding immune regulation in hosts infected with Leishmania, Toxoplasma, and molecular parasitology in which investigators study drug resistance in toxoplasmosis, gene regulation in malaria andUnderstanding basic molecular functioning of malaria parasites to develop new antimalarial drugs.Major Companies like Pfizzer and Merck Animal Health in US manufactured Zithromycinand Innovax respectively antiparasitic drugwhich is used to cure the parasitic diseases worldwide.

Conference Highlights:

- Parasitology: Overview
- Medical Parasitology
- Veterinary Parasitology
- Structural and Molecular Parasitology
- Vector-Borne Viral Diseases
- Ticks and Tick-borne Pathogens in Tropical Veterinary Medicine
- Pathogenesis and Immunity
- Challenges in Malaria Research
- Molecular Genetics and Genomic Analysis
- Diagnosis
- Novel Approaches in Disease Control
- Ethical Issues

Why to attend???

Parasitology-2015 could be an exceptional event that brings along a novel and International mixture of giant and medium parasitology analysis, leading universities and parasitology analysis establishments creating the conference an ideal platform to share expertise, foster collaborations across trade and world, and assess rising technologies across the world. World-renowned speakers, the most recent techniques, tactics, and the newest updates in Parasitology fields are hallmarks of this conference.

A Unique Opportunity for Advertisers and Sponsors at this International event:

http://parasitology.conferenceseries.com/Sponsorship.pdf

History of Parasitology Research

The earliest book devoted to Parasitology was published in 1684 by Redi, who provided descriptions of reproductive organs and eggs of Ascaris. In 1817 Lancisi recorded studies of mosquitoes and Vague Surmises about their role in the cause of intermittent fevers. Goldfuss, in 1817, first used the word "protozoa," which was given modern meaning in 1845 by Siebold, Leeuwenhoek (1632-1723) had devised and used simple microscopes, but achromatic objectives in a compound microscope were not used in England until 1824. Gross, in 1849, was the first to describe an amebic parasite in man Entamoeba gingival and Losch identified E. histolytica in 1875. Then came the discovery of mosquito hosts for filariae by Manson (1877 -1878) and Plasmodia by Laveran in 1880, transmission of babesiosis by ticks by Smith and Kilburne in 1894, trypanosomes and their transmission by tsetse flies by Bruce (1895 - 1896), and mosquito transmission of plasmodia by Ross (1897- 1898). [1]

Members Associated with Parasitology Research

There are 13 Parasitology Researchers in the University of Pennsylvania.

The major research areas includes immunoparasitology in which a large group of faculty focus on understanding immune regulation in hosts infected with Leishmania, Toxoplasma, and Schistosoma, cell and molecular parasitology in which investigators study a range of topics including drug resistance in toxoplasmosis, gene regulation in malaria, and the molecular biology and neurobiology of infective nematode larvae, and population/evolutionary biology with projects which focus on the interaction trematodes with their snail hosts and the population dynamics of parasites of farmed animals.University of

Drexel have 12 faculty members are working exclusively on parasitology.

Hospitals Associated with Parasitic Diseases

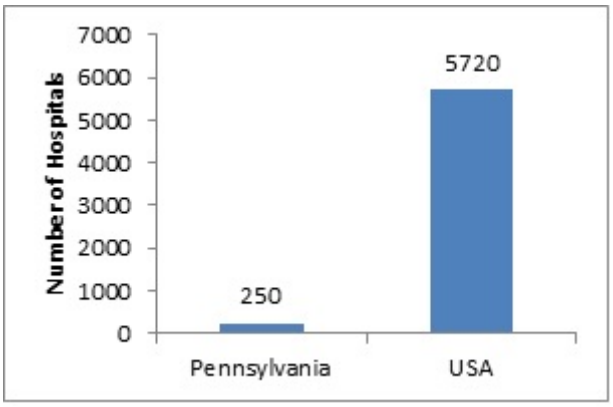

Figure 1: Number of Hospitals in Pennslvania and USA

Philadelphia

- Temple University Hospital
- Jeffersons University Hospitals
- Philadelphia Animal Hospital
- Aria Health
- Belmont Behavioral Health
- Chestnut Hill Hospital
- Frankford Hospital - Frankford
- Friends Hospital
- Girard Medical Center
- Graduate Hospital
- Jeanes Hospital

USA

- University College London Hospital
- Lakeview Hospital
- Oxford Veterinary Hospital
- Northwestern Memorial Hospital

Worldwide

- Young Animal Hospital
- Mayo Clinic
- Carter County Animal Hospital
- Lakewood Animal Hospital
- Wignall Animal Hospital
- Crouse Hospital
- Animal Hospital of Clemons
- Burnsville Parkway Animal Hospital
- Oak Knoll Animal Hospital
- Stiern Southwest Veterinary Hospital
- Hiltop Animal Hospital

Hospitals Statistics in USA working on parasitology

Total Number of All U.S. Registered Hospitals	5,723
Number of U.S. Community Hospitals	4,999
Number of Nongovernment Not-for-Profit Community Hospitals	2,894
Number of Investor-Owned (For-Profit) Community Hospitals	1,068
Number of State and Local Government Community Hospitals	1,037
Number of Federal Government Hospitals	211
Number of Nonfederal Psychiatric Hospitals	413
Number of Nonfederal Long Term Care Hospitals	89
Number of Hospital Units of Institutions (Prison Hospitals, College Infirmaries, Etc.)	11
Total Staffed Beds in All U.S. Registered * Hospitals	920,829
Staffed Beds in Community** Hospitals	800,566
Total Admissions in All U.S. Registered * Hospitals	36,156,245
Admissions in Community** Hospitals	34,422,071
Total Expenses for All U.S. Registered * Hospitals	$829,665,386,000
Expenses for Community** Hospitals	$756,916,757,000
Number of Rural Community Hospitals**	1,980
Number of Urban Community Hospitals**	3,019
Number of Community Hospitals in a System ***	3,100
Number of Community Hospitals in a Network ******	1,508

*Registered hospitals are the hospitals that meet AHA's criteria for registration as a hospital facility.

**Community hospitals are defined as all nonfederal, short-term general, and other special hospitals. Other special hospitals include obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; and other individually described specialty services. Community hospitals include academic medical centers or other teaching hospitals if they are nonfederal short-term hospitals. Excluded are hospitals not accessible by the general public, such as prison hospitals or college infirmaries.

***System is defined by AHA as either a multihospital or a diversified single hospital system. A multihospital system is two or more hospitals owned, leased, sponsored, or contract managed by a central organization. Single, freestanding hospitals may be categorized as a system by bringing into membership three or more, and at least 25 percent, of their owned or leased non-hospital preacute or postacute health care organizations. System affiliation does not preclude network participation.

**** Network is a group of hospitals, physicians, other providers, insurers and/or community agencies that work together to coordinate and deliver a broad spectrum of services to their community. Network participation does not preclude system affiliation. [2]

Major Worldwide Hospitals working on Parasitology

- Young Animal Hospital
- Mayo Clinic
- Carter County Animal Hospital

- Lakewood Animal Hospital
- Wignall Animal Hospital
- Crouse Hospital
- Animal Hospital of Clemons
- Burnsville Parkway Animal Hospital
- Oak Knoll Animal Hospital
- Stiern Southwest Veterinary Hospital
- Hiltop Animal Hospital
- The Johns Hopkins Hospital
- Lehigh Valley Hospital
- MedStar Washington (D.C.) Hospital Center.

Major Parasitology Associations in & around Philadelphia,USA

- American Society of Parasitology
- American Society of Tropical Medicine & Hygiene
- American Association of Veterinary Parasitologists
- World Federation of Parasitologists
- World Association for the Advancement of Veterinary Parasitology
- No More Malaria
- Southwestern Association of Parasitology
- Amercian Society of Animal Science
- American Public Health Association (APHA)
- American Board of Pathologists
- Infectious Diseases Society of America

Major Parasitology Associations, Woldwide

- New England Association of Parasitologists
- British Society For Parasitology
- Irish Society for Parasitology
- British Veterinary Association
- Australian Veterinary Association
- Japanese Society of Parasitology
- The European Scientific Counsel for Companion Animal Parasites
- Chinese Society of Parasitology
- Danish Society for Parasitology
- Hungarian Society Parasitologists
- Malaysian Society of Parasitology and Tropical Medicine
- Association of RoumanianParasitologists
- Serbian Society of Parasitologists
- Parasitological Society of Southern Africa
- Scandinavian-Baltic Society for Parasitologists
- German Society for Parasitology
- NetVet Veterinary and Animal Science Organizations
- american association of veterinary parasitology
- Korean Society for Parasitology
- Russian Society of Nematologists
- Japanese Society of Tropical Medicine
- Royal Society of Tropical Medicine and Hygiene (RSTMH)
- Swiss Society of Tropical Medicine and Parasitology
- The Japanese Society of Parasitology

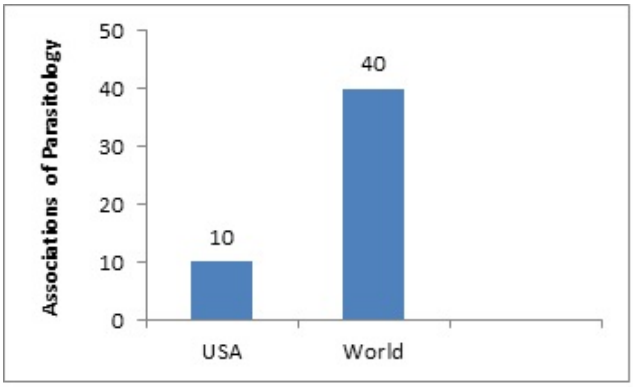

Figure 2: Parasitology Associations and societies in number

Industries/Manufacturers of Parasitic Drugs

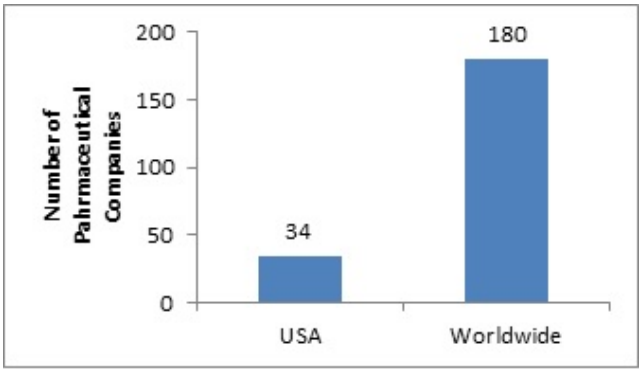

Figure 3: Industries of Parasitic Drugs

USA

- Abbott Laboratories
- Ariad Pharmaceuticals
- Cubist Pharmaceuticals, Inc.
- Pfizer Inc
- AstellasPharma US, Inc.
- Merck & Co.
- Bristol-Myers Squibb
- Mylan Laboratories
- Eli Lilly
- Baxter International

Worldwide

- Janssen Pharmaceutica
- Lepetit Pharmaceuticals
- GlaxoSmithKline
- Bayer HealthCare
- Sanofi-Aventis
- Valeant Pharmaceuticals
- Gilead Sciences
- Dainippon Sumitomo Pharma
- Kyowa Hakko
- H. Lundbeck

- Ego Pharmaceuticals
- Elder Pharmaceuticals
- Ferring Pharmaceuticals
- Fresenius Medical Care
- Hikma Pharmaceuticals
- Panacea Biotec Ltd
- Salix Pharmaceuticals [3]

Universities Associated with Parasitology Research

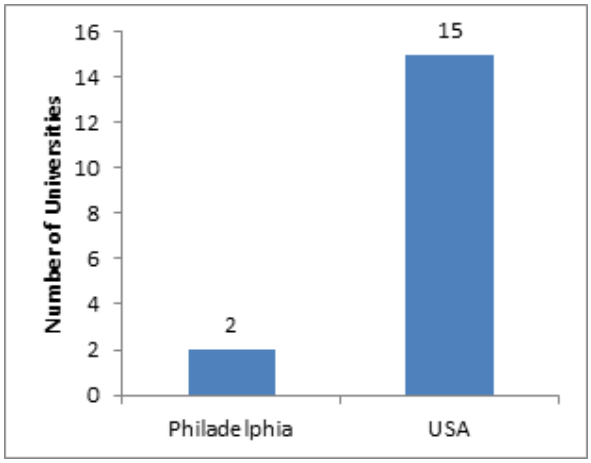

Figure 4: Universities associated with parasitology research in number

Philadelphia

- University of Pennsylvania
- University of Drexel

USA

- Keele University
- The University of Illinois
- University of Florida
- Texas A&M University
- New York University
- Harvard University
- Tulane University
- Louisiana State University Health Sciences Center
- Shandong University
- Michigan State University
- Arizona State University
- University of Minnesota

Worldwide

- University Copenhagen
- University Leiden
- Moscow State University
- University Melbourne
- University Alberta
- University Kiel
- University Leeds
- University Queensland
- University Leipzig
- University Otago
- York University
- McGill University
- University of Toronto
- Aga Khan University

Market Value forAntimalarial Drugs [4]

Country	Total annual sales*	Leading product (sales*)
United States	27,782	Malarone (15,745)
India	11,090	Falcigo (1,510)
West Africa*	10,794	Coartem (1,208)
United Kingdom	8,619	Malarone (4,477)
France	5,689	Malarone (4,518)

Malarone (atovaquone + proguanil); Falcigo (artesunate); Coartem (artemether + lumefantrine). *In US$ thousands. *The West Africa region includes data from the following countries: Mauritania, Senegal, Mali, Guinea, Ivory Coast, Burkina Faso, Benin and Niger. Source: IMS PADDS, 2009, MAT.

Figure 5: Market Value for Antimalarial drugs: Countrywise

Market Growth of Parasitic Drugs Manufacturers Worldwide

Name of Company	Business Turnover
Pfizzer	US$ 1 billion
Abbott Laboratories	US$ 3.72 billion
Merck Animal Health	US$ 3.3 billion
Bristol-Myers Squibb	US$ 5.3 billion

Figure 6: Market Growth of Parasitic drugs of major companies with business turnover

Fund Allotment to Parasitology Research

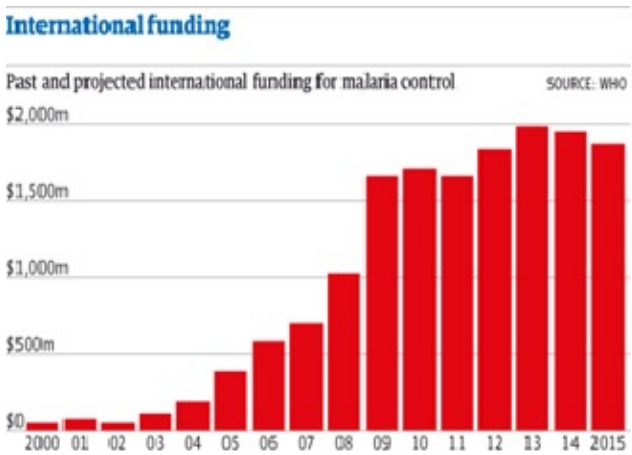

Figure 7: International Funding for malaria control by WHO (World Health Organization) [5]

US Funding for Malaria

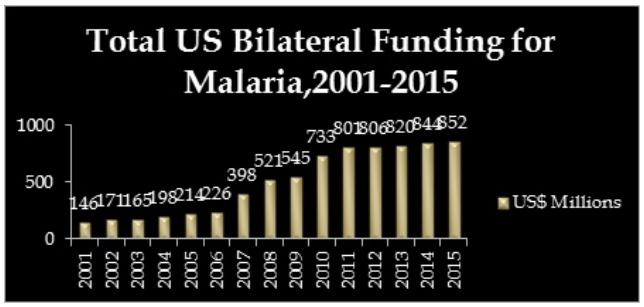

Figure 8: US Funding to malaria disease from 2001-2015 [6]

Products Manufactured By Industry Related to Parasitology Research Worldwide

- Zithromycin - Zithromax By Pfizzer
- Clindamycin - Cleocin by Pfizzer
- Fluconazole - Diflucan by Pfizzer
- Larithromycin - Biaxin by Abott Laboratories
- Innovax by Merck Animal Health
- Praziquantel - Biltricide by bayer
- Proguanil/atovaquone Malarone by GlaxoSmithKline
- Daraprim by GlaxoSmithKline
- Malarone by GlaxoSmithKline
- Mepron by GlaxoSmithKline

Death cases of parasitic diseases

Foodborne diseases cause approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States each year. Known pathogens account for an estimated 14 million illnesses, 60,000 hospitalizations, and 1,800 deaths. Three pathogens, Salmonella, Listeria, and Toxoplasma, are responsible for 1,500 deaths each year, more than 75% of those caused by known pathogens, while unknown agents account for the remaining 62 million illnesses, 265,000 hospitalizations, and 3,200 deaths. Overall, foodborne diseases appear to cause more illnesses but fewer deaths than previously estimated.Malaria is a public health problem in several parts of the country. About 95% population in the country resides in malaria endemic areas and 80% of malaria reported in the country is confined to areas consisting 20% of population residing in tribal, hilly, difficult and inaccessible areas.

Prevention and Control of Parasitic Diseases

Control and prevention of parasitic disease depends on an adequate knowledge of interactions among factors such as human behavior, the environment, and the life cycles of parasites. Sociocultural factors in large part determine transmission and persistence of parasites. The main determinants are poverty, low educational level, deficiencies in home technologies, high demographic density, and ruralism. Selected interventions designed to improve any of these situations may fail if they are applied in an isolated manner.The control of parasitic diseases of humans has been undertaken since the aetiology and natural history of the infections was recognized, while some parasitic infections such as malaria have proved difficult to control, as defined by a sustained reduction in incidence, others, particularly helminth infections can be effectively controlled. The different approaches to control from diagnosis, to treatment and cure of the clinically sick patient, to control the transmission within the community by preventative chemotherapy and vector control are outlined. The concepts of eradication, elimination and control are defined and examples of success summarized. To control or eliminate parasitic diseases are positioned and the development of public-private partnerships as vehicles for product development or access to drugs for parasite disease control.

Trend of Malaria Cases And Deaths 2001-2012

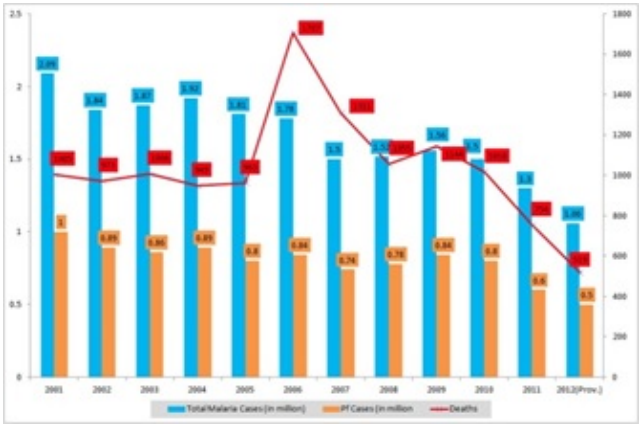

Fig 9: shows that the cases have consistently declined from 2.08 million to 1.06 million during 2001 to 2012. Similarly Pf cases have declined from 1.0 to 0.53 million cases during the same period. Less than 2000 deaths were reported during all the years within this period with a peak in 2006 when an epidemic was reported in NE States. The country SPR has declined from 2.31 to 0.98 and SFR has declined from 1.11 in 2001 to 0.49 in 2012. This indicates declining overall endemicity of malaria in the country.[7]

Recent Research on Parasitology

Parasitology Research covers the latest developments in parasitology across a variety of disciplines, including biology, medicine and veterinary medicine. Among many topics discussed are chemotherapy and control of parasitic disease, and the relationship of host and parasite.Research of O. viverrini genomic DNA and used high-throughput sequencing machines to produce more than 60–fold coverage of the genome as small sequence fragments. These small fragments were then assembled into genome scaffolds. In these large genome scaffolds, each gene region was identified and annotated.A range of tools were then used to predict the function of each O. viverrini gene, including key molecules associated with metabolism and their adaptation to life in the human bile duct.

Mexican and American researchers are working on developing a vaccine to stop Chagas disease.The medical development has been tested in animal models, where it was observed that the disease stopped in 80 percent of cases; physicians expect similar results from a human control group.The drug that has shown better results against Chagas disease is benznidazole. "However, when administered in newly infected people it has a 60 percent effectiveness at stoping the progression of the disease.[8]

Future Aspects

Vaccination is being considered as the most feasible alternative for parasitic diseases like human African trypanosomiasis and anthelmintic drugs to control gastrointestinal nematode infections in cattle. However, despite the identification of several candidate protective antigens, no vaccines against gastrointestinal nematode parasites are currently available. The main problems that hamper the development of nematode vaccines in ruminants are that vaccination with recombinant nematode proteins produced in bacterial or

eukaryotic expression systems did not induce a protective immune response and no suitable antigen delivery system is available for presentation of protective worm antigens to the bovine mucosal immune system.[9]

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