



ISID NEWS

An Official Publication of the International Society for Infectious Diseases

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ISID NEWS

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14th International Congress on Infectious Diseases (ICID)

Miami, Florida • March 9–12, 2010



CALL FOR ABSTRACTS

Dear Colleague:

On behalf of the ISID, I would like to invite you to submit abstracts for presentation at the 14th International Congress on Infectious Diseases:

<https://esociety.netkey.at/isid/isid/abstractsubmission/>

The Congress will be held in Miami, Florida USA on March 9–12, 2010. The scientific program for the Congress is nearly complete and we have an outstanding line up of speakers and topics that will be of interest to anyone active in the fields of infectious and emerging diseases, and travel medicine.

The deadline for abstract submissions for the 14th ICID is November 1, 2009. I urge you to submit your abstract as soon as possible and plan on joining colleagues and peers from around the world in Miami for this terrific meeting. Take advantage of reduced registration fees by registering on or before January 15, 2010.

Please visit http://www.isid.org/14th_ICID/ for complete information including Congress registration, hotel reservation and abstract submission instructions.

I look forward to seeing you in Miami.

Warm regards,
Raul E. Isturiz, MD, FACP
President, International Society for Infectious Diseases

Preliminary Program



Raul E. Isturiz, MD, FACP

President, International Society
for Infectious Diseases

Confirmed Speakers

Alonso, Pedro (Spain)
Alter, Galit (USA)
Barre-Sinoussi, Françoise (France)
Bearman, Gonzalo (USA)
Bhutta, Zulfiqar (Pakistan)
Cahn, Pedro (Argentina)
Cetron, Martin (USA)*
Christiansen, Keryn (Australia)
Cohen, Myron (USA)
Conde, Marcus (Brazil)
Cornejo, Patricia (Mexico)
Cortes, Jorge (Colombia)
Curcio, Daniel (Argentina)
Dagan, Ron (Israel)
Daikos, George (Greece)
Edmond, Michael (USA)
Escalante, Ananias (USA)
Franco-Paredes, Carlos (USA)
Freedman, David (USA)*
Friedland, Jonathan (United Kingdom)
Giske, Christian (Sweden)
Gokhale, Rajesh (India)
Goonetillake, Nilu (United Kingdom)
Goossens, Herman (Belgium)
Gould, Ian (Scotland)
Hirsch, Martin (USA)
Hussell, Tracy (United Kingdom)
Jacobs, Michael (USA)
Jong, Elaine (USA)*
Klugman, Keith (USA)

The H1N1 Influenza Pandemic

- Historical Perspective: Lessons Learned from Past Pandemics
- The H1N1 Outbreak in Mexico
- Global Tracking and Response to the Pandemic
- The Role of Antivirals in Mitigating the Pandemic

Current Challenges in HIV Care

- State-of-the-Art on ARV Therapy: How Many Standards of Care?
- Drug Resistance and Other Laboratory Monitoring Assays in HIV Infection
- Opportunistic Infections and IRIS in the Era of HAART
- Why are Patients Dying in the HAART Era?

Carbapenemase-Producing Bacteria: The Threat of 'Panresistance'

- Clinical Impact and Current Epidemiology of Carbapenemase Producers
- Detecting Carbapenemase Producers in the Clinic
- Controlling the Spread of Carbapenemase-Resistant Bacteria
- Treatment Options for Carbapenem-Resistant Infections

International Perspectives on Infection Control

- The Future Hospital Epidemiologist's Portfolio for Success
- International Controversies: Below the Elbow and Incremental Value of MRSA Screening
- Engaging Nations in a Commitment to Infection Control
- With Limited Resources: How to Begin and How to Sustain an Infection Control Program

A Rational Approach for the Treatment and Prevention of Neonatal Sepsis

- Understanding the Immune System of the Premature and the Term Neonate
- Global Burden of Neonatal Sepsis
- Rational Use of Antibiotics in the Critically Ill Neonate and the Premature Infant
- Strategies to Limit Infections in the Neonate and to Reduce Infection-Related Mortality

MRSA: Disease Mechanism and Control

- Inducible Dormant MRSA
- The Role of PVL in Severe Disease - What is the Evidence?
- MRSA Control Programs in the UK: Impact on Quality of Care, Nosocomial Infection and Public Perception
- MRSA Epidemiology and Control in Latin America

Current Issues in Multi Drug Resistant Gram—negatives

- *Escherichia coli*
- *Klebsiella pneumoniae*
- *Pseudomonas aeruginosa*
- *Acinetobacter* spp.

Biomarkers in Infectious Diseases

- Clinical Use of Biomarkers in the Diagnosis and Management of CAP
- Biomarkers for Sepsis: Is Proteomics the Answer?
- Biomarkers for the Diagnosis of TB
- Clinical Utility of Biomarkers in Fungal Infections

Antimicrobial Stewardship: Challenges and Strategies for the 21st Century

- Extreme Drug Resistance (XDR) in Nosocomial Pathogens
- Basic Principles of Implementing an Antibiotic Optimization Program
- Infection Control Program as an Additional Tool to Control Bacterial Resistance
- New Antibiotics: Which Role in an Antimicrobial Stewardship Program

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Confirmed Speakers *continued*

Kolter, Roberto (USA)
 Magill, Alan (USA)*
 McCullers, Jonathan (USA)
 Metzger, Dennis (USA)
 Miro, Jose (Spain)
 Moore, Penny (USA)
 Mulholland, E.K. (United Kingdom)
 Ndase, Patrick (Uganda)
 Nau, Roland (Germany)
 Nordmann, Patrice (France)
 Nuernberger, Eric (USA)
 Nyaruhirira, Alaine (Rwanda)
 Odio, Carla (Costa Rica)
 Pasteran, Fernando (Argentina)
 Peltola, Heikki (Finland)
 Pittet, Didier (Switzerland)
 Rodriguez-Morales, Alfonso (Venezuela)
 Rosenthal, Victor (Argentina)
 Saez-Llorens, Xavier (Panama)
 Schwaber, Mitchell (Israel)
 Singhi, Sunit (India)
 Steffen, Robert (Switzerland)*
 Torres, Antoni (Spain)
 Torres, Jaime (Venezuela)
 Villegas, Maria Virginia (Colombia)
 Warrell, David (United Kingdom)*
 Wenzel, Richard (USA)
 Wey, Sergio (Brazil)
 Wood, Robin (South Africa)

* Travel Medicine Track Speaker

Tuberculosis: Tools for the Future

- **Unlocking the Mycobacterial Cell Wall: Insights into Virulence and Targets**
- **Diagnosing Drug Resistance in Low-resource Settings: Practical Approaches**
- **Applicable Insights from Pharmacokinetic and Pharmacodynamic Modeling of Antituberculosis Chemotherapy**
- **Addressing Latent TB in Areas with High TB Burden: Implications for Control**

Bacterial Meningitis: Prevention and Care

- **The Global Impact of Bacterial Meningitis**
- **The Pathophysiology of Meningitis**
- **Vaccination Against Bacterial Meningitis**
- **Effective Adjuvant Therapies for Meningitis**

Burden of *Plasmodium vivax* Malaria in Latin America

- **Epidemiology of *P. vivax* Malaria in the World and Latin America**
- **Molecular Epidemiology of *P. vivax*: Tools for Malaria Control**
- **Severe and Complicated Malaria due to *P. vivax***
- **Treatment, Prophylaxis & Resistance in *P. vivax* Malaria**

Successful Short Antibiotic Treatment of Childhood Pneumonia—Myth or Reality?

- **Determinants of Bacteriologic Eradication in Respiratory Tract Infections**
- **What Are the Benefits of Short Antibiotic Treatment?**
- **Short Treatment and the WHO-Defined Pneumonia—What Are We Treating?**
- **Can Short Antibiotic Treatment be Widely Used in Developed Countries?**

Update on Fungal Infections

- **Treating Resistant Filamentous Fungi Infections**
- **Endemic Fungal Infections in the Americas**
- **Fungal Skin Infections in the Tropics**
- **Prevention and Treatment of Nosocomial Candidiasis**

Will the Next Generation End AIDS?

- **Role of Innate Immunity in the Control of HIV Infection**
- **The Role of T Cell Immunity in the Control of HIV Infection**
- **Understanding Anti-HIV Antibody Targets**
- **The Hope and Progress in Microbicides and Pre-Exposure Prophylaxis to Prevent HIV**

Update on Infections in Transplant Patients

- **Tropical Infections in Solid Organ Transplant Recipients**
- **Polyoma Virus Infection after Kidney Transplantation**
- **Respiratory Viral Infections in Hematopoietic Stem Cell Transplant Recipients**
- **Prevention of Cytomegalovirus Infection after Hematopoietic Stem Cell Transplantation: Preemptive Therapy vs Universal Prophylaxis**

***Traveler's Diarrhea and Enteric Diseases of Latin America**

- **Traveler's Diarrhea Epidemiology**
- **Traveler's Diarrhea: Prevention and Treatment**
- **Helminths of Latin America**
- **Food-borne Toxins**

***Malaria in the Americas**

- **Epidemiology and Intensity of Transmission**
- **Need for Continuous Prophylaxis for Travelers to the Americas: Yes**
- **Need for Continuous Prophylaxis for Travelers to the Americas: No**
- **Choice of Drugs for Prophylaxis**

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Preliminary Program *continued from page 3*

***The Ill Returnee from Latin America**

- Febrile Illnesses
- Cutaneous Diseases
- Non-enteric Helminths Including Cisticercosis
- HIV and STIs in Latin America

***Travelers to Latin America with Special Risks**

- Risk on Common Cruise Itineraries
- Compromised Travelers
- Pregnant Travelers
- High Altitude Itineraries

***Epicenter of Major Diseases**

- Central America and the Caribbean
- The Andes: Hantavirus, Bartonellosis
- The Amazon: Yellow Fever
- The Amazon: leishmaniasis and Chagas' Disease

***Rabies, Bites and Envenomations**

- Rabies
- Prevention and Treatment of Snake
- Envenomation Top 10 Latin American Arthropods and their Best Bites
- Marine Animal Attacks Haddad Junior

Symposia Under Development

- Neglected Tropical Diseases: Present Need and Present Action
- Tracking Zoonotic Diseases Around the Globe
- *Travel Medicine and the Influenza Pandemic

*** Travel Medicine Track**



*Art Deco from the
Greater Miami Convention
and Visitor's Bureau*

14th ICID Collaborating Organizations:



Asociación
Panamericana de
Infectología (API)



Sociedad
Latinoamericana
de Infectología
Pediátrica (SLIPE)



International
Society of Travel
Medicine (ISTM)



Infectious Diseases Society
of America (IDSA)



Sociedad Latinoamericana de
Medicina del Viajero (SLAMVI)

14th ICID Participating Organizations:

American Society for Microbiology
(ASM)

Argentinian Society of Infectious
Diseases (SADI)

Asociación Colombiana de Infectología
(ACIN)

Brazilian Society of Infectious Diseases
(BSID)

Costa Rican Society of Infectious
Diseases

European Society of Clinical
Microbiology and Infectious Diseases
(ESCMID)

International Society for Anaerobic
Bacteria (ISAB)

Panamanian Society of Infectious
Diseases

Pan American Health Organization
(PAHO)

Paraguayan Society for Infectious
Diseases

Venezuelan Society of Infectious
Diseases (SVI)

Announcement of ICID abstract awards:

The following awards are available for those who submit abstracts.

Please see full descriptions at http://www.isid.org/14th_icid/awards.shtml
for eligibility requirements and application guidelines.

Sanofi Pasteur Travel Grants for Latin American Women Physicians and Scientists

The ISID is delighted to announce this award, which invites women physicians and scientists ages 40 or younger, working in the field of infectious diseases or microbiology, to apply for travel grants to attend the 14th International Congress on Infectious Diseases. This opportunity is open to individuals from Latin America and the Caribbean whose careers focus on the study, prevention, control, or treatment of infectious diseases. Each grantee will receive airfare, lodging, a stipend of \$300 USD, and registration to attend the 14th ICID.

Sanofi Pasteur Awards for Communicable Disease Epidemiology were created to stimulate research on and emphasize the importance of applied epidemiology in the field of communicable diseases for the overall improvement of health.

Appropriate research may be based on laboratory investigation (e.g., serotypes of pneumococcus found in invasive disease in children or adults; seroprevalence of hepatitis A according to age), clinical investigation (e.g., risk factors for dengue fever), epidemiologic field work (e.g., morbidity and mortality from influenza, incidence of Lyme disease), health economics (e.g., medical and social costs of influenza, cost-benefit of vaccination program), or a combination of these topics.

Two awards sponsored by Sanofi Pasteur will be presented for the best abstracts accepted for presentation at the Congress. Each award consists of US\$ 2,000 in addition to reimbursement of travel, accommodation, and registration expenses for the 14th ICID.

CDC Awards for Epidemiology, Surveillance and Communications in Travelers' Health

ISID is pleased to announce that the Center for Disease Control (CDC) has provided a grant to ISID that will support CDC Awards for Epidemiology, Surveillance and Communications in Travelers' Health for Latin American and Caribbean investigators working in the field of travelers' health. The purpose of these awards is to encourage investigators from Latin America who work in the field of travelers' health to present their work at the 14th ICID together with their counterparts from around the world. Awards will be selected based on the relative merit of abstracts submitted in the category "Travel Medicine / Travelers' Health". Grant funds will be allocated to defray registration costs for the benefit of award recipients.

Novartis Vaccines Awards for Epidemiology of Infectious Diseases were created to identify and reward researchers for their work in furthering the understanding of infectious disease epidemiology. Two abstracts will be selected for the award. Each award winner will receive US\$ 2,500 in addition to reimbursement of travel, accommodation, and registration expenses for the 14th ICID. This year, only researchers working in Latin America and the Caribbean are eligible for the awards.

ISID New Investigator Award:

The International Society for Infectious Diseases is delighted to continue the ISID New Investigator Award for the 14th ICID. The award includes round trip economy airfare to the 14th ICID, hotel accommodation and registration for the Congress. The award will be presented during the Opening Ceremony on Tuesday, March 9, 2010.

CME CREDIT: The scientific program of the 14th Congress on Infectious Diseases has been reviewed by the American Medical Association and approved for AMA PRA Category 1 Credit.



ProMED-EAFR and ProMED-FRA

ProMED-mail and HealthMap held an African Regional Meeting and workshop in conjunction with the 5th TEPHINET (Training Programs in Epidemiology and Public Health Interventions NETWORK) & 3rd AFENET (African Field Epidemiology Network) Regional Scientific Conference held in Mombasa, Kenya August 30–September 4. ProMED's focus on human, animal and food plant health fit in well with the "One Health" theme of this year's conference, and attendees were very interested in the use of informal information sources such as ProMED and HealthMap as adjuncts to disease surveillance in Africa. Existing partnerships with public health, infectious disease and veterinary organizations in the region were strengthened, new connections were forged, and hundreds of health professionals subscribed to the ProMED-FRA and ProMED-EAFR email lists.

If you are interested in receiving free disease report emails from ProMED's Francophone West Africa (ProMED-FRA) and East Africa (ProMED-EAFR) networks, please visit our subscription website: <http://www.isid.org/promedmail/subscribe.lasso>

ProMED-mail Workshop in Mombasa



ProMED-mail: Welcome aboard!

Artak Stepanyan studied Medicine in Armenia and completed his MSc degree in Disease Control and Tropical Medicine in Germany. Currently he works in the School of Population & Public Health at the University of British Columbia. His interests are HIV/AIDS Medicine, studies of healthcare accessibility, its effects on health outcomes and communicable diseases surveillance. He enjoyed working with ProMED-RUS team from 2005 to 2008 and recently enthusiastically joined the team again.

Saipin Chotivichien is a medical doctor from Thailand. She is currently pursuing a doctoral degree in Epidemiology program at UCLA (University of California, Los Angeles). She is interested in HIV/AIDS and nutrition topics. Dr. Chotivichien will be working with ProMED/MBDS.

Susan Baekeland joins ProMED-mail as a correspondent with an expertise in plant diseases, animal diseases and zoonoses and is based in Normandy, France. Working as a ProMED volunteer rapporteur, Dr. Baekeland was the recipient of the 2008 ProMED-mail Award for Excellence in Outbreak Reporting on the Internet. http://www.promedmail.com/pls/otn/www_flow.accept

Diagnosics and molecular epidemiology of wildlife rabies in remote areas of South Africa

by **Wanda Markotter, Ph.D.**

Department of Microbiology and Plant Pathology, University of Pretoria, South Africa



**Wanda Markotter,
M.D., MPH**

Dr. Wanda Markotter has completed her PhD in Microbiology at the University of Pretoria, South Africa in 2007 where she is currently employed as a Senior lecturer. Her research focuses on the epidemiology and pathogenesis of African lyssaviruses as well as the development of new diagnostic techniques for the developing world. Other research interests include viruses associated with African bat species. She was awarded two competitive research fellowships that allowed her to complete part of her research towards a PhD degree in the USA, at the Rabies Unit of the Centers for Disease Control. She is the author of 14 scientific papers published in international journals (five as a direct result of her PhD studies) and four book chapters and has presented several papers at national and international conferences, most of them by invitation. In 2008, she also received a International Society for Infectious Diseases International Development Grant for Young Women to attend the 13th International Congress on Infectious Disease in Malaysia and present her PhD research. Wanda is also a research co-coordinator for the Northern Gauteng Bat Interest group and plays a key role in other national bodies such as the National Rabies Advisory Group.

Rabies is caused by all members of the lyssavirus genus in the family *Rhabdoviridae*, a group of single stranded negative sense RNA viruses, currently consisting of seven genotypes of which genotype 1, 2, 3 and 4 occur in Africa (Nel and Markotter, 2007). The majority of animal and human cases in South Africa in recent decades had occurred in the KwaZulu Natal (KZN) province of South Africa where the disease is endemic in domestic dogs with occasional spillover reported in wildlife species. Recently more cases of rabies in wildlife species has been reported in species such as jackals, mongooses, foxes and hyenas in areas where rabies was not previously known to occur including nature reserves. These areas are very remote and far from a rabies diagnostic laboratory and it is therefore not always possible to send samples to a diagnostic laboratory and cases may therefore go unnoticed.

The gold standard for lyssavirus diagnostics, the fluorescent antibody test (FAT) is performed on brain tissue and can not be performed under field conditions since specialized equipment such as a fluorescent microscope is needed. In Africa and other developing regions of the world, lyssavirus diagnostics and surveillance are seriously hampered due to the lack of facilities and logistical support for reliable execution of the FAT. Furthermore, in some instances where a diagnostic facility does exist and is operational, the need to efficiently transport samples to a central facility can often not be met. These obstacles in obtaining a diagnostic result from field specimens have led to serious underreporting of the disease and have ultimately resulted in a lack of commitment to control the disease.

A rapid immunodiagnostic test kit (RIDT) that could offer advantages towards overcoming some of the difficulties mentioned above, has been developed by Kang et al., 2007 but has not been tested on the African lyssaviruses. It was therefore our aim to evaluate this test for its ability to detect the most diverse isolates of the African lyssavirus genotypes and variants known to us. Furthermore the epidemiology of wildlife rabies was determined by phylogenetic analysis of samples collected from wildlife in nature reserves in KwaZulu Natal, South Africa.

The rapid immunodiagnostic test kit (RIDT) was evaluated against a selection of isolates of lyssavirus genotypes occurring in Africa in parallel comparison with the fluorescent antibody test (FAT) (Dean et al., 1996). Isolates representing previously established phylogenetic groups from each genotype (gt 1-4) were included. The specificity of the rapid immunodiagnostic test compared favourably with the FAT and was found to detect all representatives of genotypes 1, 2, 3 and 4. Molecular epidemiology analysis was also performed on the G-L intergenic region (Coetzee and Nel, 2008) of the lyssavirus genome of wildlife samples that tested positive with the FAT. Phylogenetic analysis of hyena and jackal samples collected from a nature reserve indicated that the rabies virus present in these samples form part of the rabies cycle in dogs in this area. This indicates that wildlife cases in the reserve are due to spill over infection from domestic dogs in the area bordering the reserve. This information can now be used to intensify vaccination campaigns targeting domestic dogs in areas neighboring the nature reserves. Ultimately this will prevent spillover infections into wildlife species that may even include endangered species such as the African wild dog.

Rabies is under reported due to the lack of operational rabies diagnostic facilities or if it exists it is restricted to specific geographic locations and samples from remote areas seldom or never reach these laboratories. Under these circumstances, the RIDT may be a useful tool. This is a very simple test that can be performed in less than 10 min without any specialized equipment, infrastructure, or high level of training. There are no critical points to field use such as cold storage, since the test kit contains everything required for the diagnosis and is stable at ambient temperatures. The RIDT could specifically assist in better understanding of the epidemiology of lyssavirus infections in wildlife if application in an on-site manner is considered. Areas of wildlife reserve are often very remote, and it is rarely possible for conservationists, game rangers or farmers to duly collect and send samples to a diagnostic laboratory for testing. The technique has the potential of enhancing epidemiological surveillance of lyssaviruses under such conditions and in remote areas where lyssaviruses infections otherwise go unnoticed.

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Diagnostics and molecular epidemiology of wildlife rabies in remote areas of South Africa *continued*

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2. DEAN, D.J., ABELSETH, M.K. & ATANASIU, P. 1996. The fluorescent antibody test, in *Laboratory techniques in rabies*, edited by F.X. Meslin, M.M. Kaplan & H. Koprowski. Geneva: World Health Organization.
3. ANG, B., OH, J., LEE, C., PARK, B., PARK, Y., HONG, K., LEE, K., CHO, B. & SONG, D. 2007. Evaluation of a rapid immunodiagnostic test kit for rabies virus. *Journal of Virological Methods*, 145:30-36.
4. MARKOTTER W, YORK D, SABETA CT, SHUMBA W, ZULU G, LE ROUX K & NEL LH. 2009. Evaluation of a rapid immunodiagnostic test kit for detection of African lyssaviruses from brain material. *Onderstepoort Journal of Veterinary Research*. 76:257-262
5. NEL LH & MARKOTTER W. 2007. Lyssaviruses. *Critical Reviews in Microbiology*. 33: 301-324 ~

Call for Council Members:

On the occasion of the 14th ICID in Miami, more than one-third of the ISID Council members will conclude their terms of service and the Society will have openings for Council members from all regions.

The Nominating Committee is actively seeking your recommendation for individuals who are interested in the activities of ISID and who would become involved with the Society in its various activities.

Recommendations (including self-recommendations) for consideration by the ISID Nominating Committee should be sent to my attention: info@isid.org.

Thank you for your assistance,

Norman Stein
Executive Director, ISID

Intraspecific genetic differentiation of *Angiostrongylus cantonensis* based on the complete mitochondrial genome



**Shan Lv,
Ph.D. student**

Mr. Shan Lv currently works at National Institute of Parasitic Diseases, Chinese Center for Disease Control and Prevention and is a Ph.D. student in University of Basel registered in September, 2008. He has been studying *Angiostrongylus cantonensis* since 2003 when he was matriculated as Master student in National Institute of Parasitic Diseases. He was awarded an ISID Small Grant in April 2007 and conducted this program in October 2007.

by Shan Lv, Ph.D. student,

Swiss Tropical Institute, Switzerland; National Institute of Parasitic Diseases, China

Yi Zhang, M.Sc.

National Institute of Parasitic Diseases, China

Xiao-Nong Zhou, Ph.D.

National Institute of Parasitic Diseases, China

Jürg Utzinger, Ph.D.

Swiss Tropical Institute, Switzerland

Background

Angiostrongylus cantonensis (also known as rat lung worm) is the primary pathogen of eosinophilic meningitis in tropical region¹. Up to date, over 2800 cases due to *A. cantonensis* infections had been documented in more than 30 countries². In China, more than 380 cases were reported in the past decade and 88% of them were involved in 9 outbreaks³. More than three quarters were definitely attributed to two invasive snail species, i.e., *Pomacea canaliculata* and *Achatina fulica*³. The recent study showed that the two snail species had become the intermediate hosts of *A. cantonensis* in China⁴. Along with biological invasion of these snails, the parasites were probably transmitted beyond its original habitats. This project was performed in order to reveal the potential role of these snails in transmission of *A. cantonensis* based on genetic variation of *A. cantonensis*.

Materials and methods

A. cantonensis from China and *A. costaricensis* from Brazil were prepared for sequencing complete mitochondrial (mt) genome. Total genomic DNA was extracted from individual nematodes using sodium dodecyl-sulphate/proteinase K treatment⁵ with a little modification. The primers were constructed according to the conserved sequences of current available mitochondrial genomes, i.e., those of *Ancylostoma duodenale* and *Necator americanus*⁶. The PCR products were sequenced by the dideoxynucleotide termination method. The sequences were assembled and edited using Vector NTI package.

The primers for intraspecific variation were designed based on the comparison between complete mt genomes of *A. cantonensis* and *A. costaricensis*. 28 isolates of *A. cantonensis* from different counties in China were used to reveal the genetic variation. The methods to determine DNA sequence were similar to those in complete mt genomes.

Results

Five complete mitochondrial genomes, including 4 isolates of *A. cantonensis* and one isolate of *A. costaricensis*, were determined. The mt genome size (around 13495 bp) of *A. cantonensis* isolates is smaller than that (13585 bp) of *A. costaricensis*. The main difference in size between the two *Angiostrongylus* species lies in AT-rich region. All the mt genomes contain 12 protein-coding genes (NADH dehydrogenase subunit 1~6, cytochrome c oxidase subunit I~III, cytochrome b, ATP synthase F0 subunit 6), two rRNA (rrL, rrS) genes and 22 tRNA genes. Like the majority of known nematode mt genomes, they lack of ATP synthase F0 subunit 8.

NADH1 gene is determined as the best genetic marker for intraspecific variation by comparing complete mt genomes of *A. cantonensis* and *A. costaricensis*. The targeted fragment was sequenced in 28 isolates. Phylogenetic analysis was performed based on NADH1 gene sequence. Three clusters were identified and the distance within group is respectively 0.0031, 0.0063 and 0.0064 (with overall mean of 0.0412). The isolates in the same genetic group are not necessary to be geographically clustered.

Conclusion

A. cantonensis and *A. costaricensis* are the first member of family metastrongylidae whose complete mitochondrial genomes were determined. The findings in our experiment will supply basic data for phylogenetic analysis of nematode and further study on the pathogens of neuro- and abdominal angiostrongyliasis. Variation analysis showed that the isolates with the same genetic feature might be dispersed at a relatively long distance, which indicated that the invasion of leading vector, i.e., *Pomacea canaliculata*, potentially play an important role in transmission of this parasite. Meanwhile it is worth to further study morphology and pathogenicity of isolates from three clusters, after all no angiostrongyliasis case was reported from Hainan province.

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ISID Small Grants Program ~ Final Report *continued*

Intraspecific genetic differentiation of *Angiostrongylus cantonensis* based on the complete mitochondrial genome *continued*

Although we selected several worm samples from some isolates, which were sampled at random, for sequencing and analysis, it is still difficult to determine the genetic structure of one population. Therefore, more worm samples from the same population should be assessed in order to reveal potential genetic variation in population.

Acknowledgements

I thank Dr. Jürg Utzinger and Prof. Xiao-Nong Zhou for the opportunity to work under their supervision. I am also obligated to Prof. Carlos Graeff Teixeira who granted adult worms of *A. costaricensis*, Dr. He-Xiang Liu and Ling Hu for collection of worm samples, Dr. Ling Zhang and Dr. Qin Liu for their advice in experiments.

References

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ISID PROGRAM APPLICATION DEADLINES:

The 2009 application deadline for the ISID and the Swiss Society for Infectious Diseases (SSI) jointly sponsored SSI/ISID Infectious Diseases Research Fellowship Program is October 1, 2009. Further information and application materials are available on the ISID website at:

http://www.isid.org/programs/ssi_isid_fellowship.shtml

The purpose of this Fellowship Program is to support infectious disease physicians and scientists (MD or PhD) from developing and middle income countries through multidisciplinary clinical and laboratory training at select biomedical institutions in Switzerland. Opportunities for training and research in a variety of areas ranging from basic studies of the mechanism of disease to studies in public health, epidemiology, diagnostics, therapeutics or vaccine development, are available through this program.

The term of the Fellowship is for one year. Language skills of French or German are necessary according to the institution chosen (German for Basel, Bern, Zurich and St. Gallen; French for Geneva and Lausanne).

The deadline for the ISID Small Grants Program is October 1. Designed to fund pilot research projects by young investigators in developing countries, the goal of the Small Grants Program is to support and foster the professional development of young individuals in the field of infectious diseases research by helping them to acquire additional skills and data to apply for other grants. Areas of interest include, but are not limited to investigations of the epidemiology, pathophysiology, diagnosis or treatment of infectious diseases, the epidemiology and control of hospital-acquired infections, and modeling of cost effective interventions. Further information and application materials are available on the ISID website at: **http://www.isid.org/programs/prog_smgrants.shtml**



Swiss Society for Infectious Diseases (SSI)



Save-the-Date



International Meeting on Emerging Diseases and Surveillance

Vienna, Austria • February 4 – 7, 2011

Email: info@isid.org • Web site: <http://imed.isid.org>



International Society for Infectious Diseases

1330 Beacon Street, Suite 228 • Brookline, MA 02446 USA

Phone: (617) 277-0551 • Fax: (617) 278-9113

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Summary

The third International Meeting on Emerging Diseases (IMED 2011) is organized by the International Society for Infectious Diseases (ISID) and its Program for Monitoring Emerging Diseases (ProMED-mail). Emerging infectious diseases are at the center of the world's attention. The threats posed by pandemic influenza, bioterrorism and the realization that new infectious diseases may be recognized at any time, in any place, have dramatically raised our awareness and our need to understand emerging pathogens. What are the most important emerging disease threats? What biological, ecological, social and other factors lead to their emergence? How can we quickly detect their occurrences in order to respond in timely and appropriate ways? This meeting will fully embody the "one health" model of emerging diseases, recognizing the commonality of human and animal health.

Abstract Submission:

The deadline for abstract submission is December 1, 2010.

Target Audience:

Healthcare professionals including physicians, and veterinarians, public health specialists, epidemiologists, research scientists, pharmaceutical and biotechnology industry, journalists, other interested persons.

Topics

Planned session topics include:

- Methods and Models of Disease Surveillance, Detection and Reporting
- Emerging Zoonoses and Animal Health Threats
- Animal Reservoirs for Emerging Pathogens
- Biosecurity and Agents of Bioterrorism and Biological Warfare
- Infections Related to Travel and Migration of Humans and Animals
- Vectorborne Diseases
- Molecular Diagnostics and Epidemiology of Emerging Pathogens
- Foodborne and Waterborne Pathogens
- Specific Disease Threats: Pandemic Influenza, Avian Influenza, Rift Valley Fever, Drug-Resistant Pathogens, Chikungunya, Anthrax, West Nile Virus, Viral Hemorrhagic Fevers, Bluetongue, Transmissible Spongiform Encephalopathies, Healthcare Associated Infections, and Others.
- Vaccines Against Emerging Diseases
- Submitted Abstracts (Oral and Poster)



ISID-NTD

ISID - Neglected Tropical Diseases Meeting

July 8–10, 2011

Boston, Massachusetts • USA



Save-the-Date

International Society for Infectious Diseases

1330 Beacon Street, Suite 228

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ISID-NTD Program Committee

Alan Fenwick, *Imperial College*

Christy Hanson, *USAID*

Peter Hotez, *Sabin Vaccine Institute*

Adrian Hopkins, *Task Force for Global Health*

Julie Jacobson, *Bill and Melinda Gates Foundation*

Daniel Lew, *Geneva University Hospital and International Society for Infectious Diseases*

Adel Mahmoud, *Princeton University*

David Molyneux, *Liverpool School of Tropical Medicine*

Mary Moran, *George Institute*

Mirta Roses Periago, *Pan American Health Organization*

Lorenzo Savioli, *World Health Organization*

Eric Summers, *International Society for Infectious Diseases*

Over 1 billion of the world's poorest people suffer from one or more NTDs that profoundly affect their lives. These diseases are termed “neglected” because, in spite of the great suffering they cause, only limited resources have been available to prevent and treat them even though some of the most common NTDs can be treated effectively at very low cost.

Awareness about the problem of NTDs has grown over recent years. Governments, foundations and nonprofit organizations are increasingly taking notice and taking action. ISID aims to bring this community of providers and investigators together by organizing the first ISID-NTD meeting to encourage cross-discipline sharing of information related to combating NTDs as well as provide an opportunity to raise public awareness of the importance of NTDs around the world.

Partial list of NTDs:

- Schistosomiasis
- Lymphatic Filariasis
- African Trypanosomiasis
- Chagas Disease
- Soil Transmitted Helminthiasis
- Trachoma
- Onchocerciasis
- Leishmaniasis

Planned topics include:

- Documenting the global NTD burden
- Development of diagnostics and drugs for NTDs
- Current NTD treatment and control programs: Successes and challenges
- Program integration: Sharing of infrastructure and operations
- Achieving sustained control and elimination of NTDs
- Improving access to clean water and sanitation to prevent NTDs
- The role of human and animal health integration in the control of NTDs