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ISID NEWS

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Road to Marrakech: ISID at the 12th MCC

Prof. Jean-Paul Butzler with Prof. Hakima Himmich and Prof. Najib Zerouali (Minister of Education) during the 12th MCC in Marrakech.

The ISID was a very active participating organization in the 12th Mediterranean Congress of Chemotherapy, which was held November 11–14, 2000 in the beautiful city of Marrakech under the outstanding leadership of Professor Hakima Himmich.

Prof. Himmich, President of the Moroccan Society of Chemotherapy and a former council member of the ISID, put together an excellent program in which members of the Society were prominently featured.

Jean-Paul Butzler, MD, PhD, President of the ISID, presented the first plenary talk on Sunday November 12. Prof. Butzler discussed "New Insights in Campylobacteriosis."

On Tuesday, November 14, Prof. Alasdair Geddes, one of the past-presidents of the ISID also gave a plenary lecture. Prof. Geddes' address covered the interesting topic of "Infectious Diseases in the 21st Century." In addition to these two outstanding plenary lectures by members of the Executive Committee of the Society, the Society also participated in symposia during the meeting.

ISID was a co-sponsor of a symposium on tuberculosis that was held on Monday, November 13. Among the talks given in the symposium were two talks given by Dr. Tim Brewer, Program Director of the ISID.

Dr. Brewer discussed "The Role of BCG and Chemoprophylaxis in the Multi-drug Resistant TB Area" and "Tuberculosis in the 21st Century: Where is the Epidemic Going?"

Prof. Jacques Acar, past-president of the ISID and Honorary Treasurer, also gave a talk on November 13 on the very important topic of "The Reversion of Bacterial Resistance, Does it Exist?"

The general feeling of participants was that Prof. Himmich and her colleagues had done an excellent job in putting together an interesting and up-to-date scientific program.

Marrakech provided a beautiful backdrop on which to hold this informative congress. The meeting provided a great opportunity for colleagues to get together and discuss a variety of infectious disease issues relevant to the Mediterranean region. Prof. Butzler also had the opportunity to participate in the opening ceremony and to meet with senior public health officials from Morocco.

The ISID recognizes the importance of participating in essential regional meetings such as the 12th Mediterranean Congress of Chemotherapy. These regional meetings provide an opportunity for international experts in infectious diseases to interact with regional colleagues and discuss topics of mutual interest. ❖

Hantavirus Infection in Humans and Rodents in the Samara Region, European Russia

by O. Alexeyev, MD, PhD.

Hantaviruses are rodent-borne viruses that belong to the *Hantavirus* genus of the Bunyaviridae family. Hantavirus disease encompasses two distinct clinical syndromes: hemorrhagic fever with renal syndrome (HFRS) and hantavirus pulmonary syndrome. HFRS is endemic in many parts of Europe and Asia. Puumala (PUU) virus is the most common etiologic agent of HFRS in Europe, whereas Hantaan virus (HTN) is prevalent in Asia. PUU virus accounts for a milder form of disease, known as nephropathia epidemica. Hantaan virus inflicts a more severe form of disease. In Europe, most cases of HFRS are caused by PUU virus, which is harboured by bank voles (*Clethrionomys glareolus*). Samara is an endemic region in the European part of Russia, with one of the highest incidences of HFRS in the country. The incidence rate ranges from 40 to 1000 per 100,000 inhabitants. Fatalities, although rare, do occur in 0.5% of cases.

Table

Reactivity of sera from eight blood donors to five major hantaviruses.

	PUU	*SNV*	*HNT*	*SEO*	*DOB*
1.	-0.02	0.11	0.47	0.3	0.4
2.	0.01	0.15	0.30	0.3	0.25
3.	-0.02	0.01	0.22	0.19	0.2
4.	0.47	0.03	0.47	0.5	0.47
5.	0.2	0.0	0.19	0.24	0.21
6.	0.01	0.01	0.37	0.25	0.21
7.	0.02	0.02	0.82	0.74	0.73
8.	0.01	0.0	1.85	1.91	1.8

It has, for long time, been assumed that HFRS in Samara is caused by PUU. However, an increasing body of evidence has suggested that other hantaviruses might have been present as well, as exemplified by "seronegative" cases of HFRS as well as by extremely severe cases. The current project has been designed to address these issues.

Aims of the Project

To study the prevalence of antibodies to major pathogenic hantaviruses in patients with HFRS, blood donors and rodents in the Samara region; to estimate the cost-effectiveness of the use of a panel of antigens vs. the use of PUU antigen for routine diagnosis of HFRS; and to determine whether novel, or other than PUU, hantaviruses are present in indigenous rodent populations.

Materials and Methods

Virus antibodies in humans and rodents were detected by indirect ELISA based on recombinant nucleocapsid proteins of five major pathogenic hantaviruses. Isolation of virus in cell culture, RNA extraction, and RT-PCR for the viral RNA detection were performed as described (Alexeyev, 1998).

Results

- Sera from 129 patients with acute HFRS and 658 healthy blood donors were tested by ELISA for the presence of antibodies to five major pathogenic hantaviruses.
- All patients with HFRS developed IgM and IgG responses to PUU virus nucleocapsid protein.
- Median IgM concentration in the acute phase of disease was 92 OD and for IgG 108 OD. A cross-reactivity to Hantaan-like viruses was noted in the majority (60%) of sera as well.
- Of 658 healthy blood donors, 38 (5.8%) were positive for hantavirus antibodies; 30 subjects were positive for PUU-specific antibodies, whereas eight displayed the reactivity only to Seoul virus (*See Table*).

Subsequently we addressed the question of whether novel hantaviruses may circulate in the local rodent population. Case areas, where patients with severe HFRS were presumably infected, were identified, and rodent collection was undertaken in five areas. In total 649 rodents were captured in live traps. The species included:
Sorex araneus – 79, *Sorex minutus*–55,
Crocidura suavcolens – 13, *Microtus arvalis* – 187,
Clethrionomys glareolus – 128,
Apodemus sylvaticus – 27, *Apodemus flavicollis* – 22,
Apodemus agrarius – 110, *Mus musculus* – 3,
Micromys minutus – 22, *Erinaeus auropaies* – 1,
Ellobius talpinus – 1, *Arvicola terrestis* – 1.

Captured rodents were tested for the presence of viral antigens, antibodies, and viral RNA; 9% of the rodents tested were seropositive. However, viral antigens were detected in only three specimens. Of note, two specimens from bank voles were positive for PUU antigen, while the specimen from a field mouse was positive for HTN antigen. All antigen-positive samples were inoculated onto VeroE6 cells. After 3-month incubation the culture inoculated with the HTN-positive sample scored positive in an immunofluorescence test.

Conclusions and Further Development

This study sponsored by ISID yielded results that will have major implications for our understanding of HFRS in Samara. First, the study confirmed previous reports that PUU virus is the major pathogenic hantavirus in Samara.

Second, serological evidence indicated that other pathogenic viruses might be present as well, which strongly suggests that the sole use of PUU antigen for serologic verification of HFRS is misleading. We recommend that serological tests should include both PUU and HTN antigens.

Third, for the first time in Samara, hantavirus was isolated from a rodent reservoir. This achievement will enable us to better characterize the etiology of HFRS. Given the fact that a hantavirus was isolated from a distinct rodent species (*M.arvalis*), we hypothesize that the virus represents a new serotype as well. We will characterize the isolate by means of molecular techniques to see whether this is true.

Last, but not least, I would like to thank the International Society for Infectious Diseases for supporting my project through the Small Grant Program. The exciting results will, without a doubt, lead to better understanding of etiology and control of HFRS. ❖

Molecular Epidemiology of Invasive *Salmonella typhi* in Southeast Turkey

by Dr. Salih Hosoglu

I. Description of the Research Project

Background

Salmonella typhi is an important cause of morbidity in southeast Turkey. The population of southeast Turkey is 2,500,000, and the incidence of typhoid fever in this region ranges from 210 to 320 cases per 100,000 persons (1). In 1998, according to a report from the Turkish Health Ministry, 10,064 patients were hospitalized for typhoid fever. Over 60% of cases were reported from the southeast region (2,3). Dicle University Hospital (DUH), a tertiary referral center and the largest hospital in southeast Turkey, cares for the vast majority of patients referred to hospital with typhoid fever. Little, however, is known about the epidemiology of *S. typhi* infection in southeast Turkey (4). A previous study demonstrated high rectal carriage rates of *S. typhi* among workers at the Hevsel plantation, a 100-square kilometer plantation located near Diyarbakir City center (5). Sewage water from the city is used for irrigation of this plantation. Alarmingly, vegetables from this plantation are distributed within a 150-kilometer radius in the spring and summer. Using molecular techniques, studies have shown that strains of *S. typhi* can be differentiated for epidemiological purposes (6,7). Pulsed-field gel electrophoresis (PFGE) and ribotyping have been shown to be powerful tools for the analysis of sporadic cases of invasive *S. typhi* infection (8-11). I hypothesized that the variability in PFGE patterns in strains from the various regions in southeast Turkey would allow determination of regional transmission characteristics. I was particularly interested in determining whether the Hevsel plantation is a reservoir for invasive *S. typhi* infection throughout southeast Turkey. This study provided me with preliminary data to begin to understand transmission patterns in the region.

Methods

Fifty *S. typhi* blood isolates from patients referred to DUH for typhoid fever were analyzed. These patients were admitted to hospital from diverse geographic locations within southeast Turkey. In addition, 17 environmental isolates were typed (including two from Hevsel plantation lettuce). All isolates were typed at the microbiology laboratory of the general site of the Hamilton Health Sciences Corporation. Molecular typing of total of 67 isolates of *S. typhi* was performed by PFGE of genomic DNA using restriction endonucleases *Xba*I and *Avr*II. PFGE fingerprints were be visualized by ethidium bromide staining and analyzed using standard criteria (12). PFGE typing was supplemented with ribotyping by the hybridization of *Pst*I restriction endonuclease fragments of genomic DNA with pKK3535 plasmid DNA containing the *Escherichia coli* rrnB operon as the probe (13). DNA fingerprints were determined by an immunochemical method using the Non-Radioactive Labeling and Detection System (Roche Molecular Biochemicals, Laval, Quebec, Canada). *S. typhi* was distinguished by the percentage similarity between ribotype fingerprint banding patterns.

Results

Of the 50 clinical isolates, 37 were obtained from patients residing in the center of Diyarbakir City, and the remaining 13 were from nearby towns. The mean age of cases was 25 years (range 1 to 77 years); 22 (44%) were university students. PFGE with the enzymes *Xba*I and *Bln*I identified 21 different strains and produced 100% concordant results. Ribotyping of *Pst*I fragments was less discriminatory and showed results concordant with PFGE. In contrast, PCR-ribotyping was the least discriminatory, identifying only six molecular types. All methods identified five predominant strains, accounting for 21% (13 clinical, one environmental), 19% (12 clinical, one environmental isolate from Hevsel plantation area), 15% (nine clinical), 8% (five clinical), and 8% (three clinical, two environmental) of isolates. In all, 30 clinical isolates (60%) were identical with four different environmental isolates. Thus, environmental strains were responsible for more than half of *S. typhi* cases.

Conclusion

S. typhi strains in southeast Turkey are polyclonal, and five of these strains appear to be predominant. Environmental reservoirs may be an important source for transmission of *S. typhi* in southeast Turkey. Molecular typing is a useful tool for studying the epidemiology of *S. typhi* disease in this region.

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Molecular Epidemiology of Invasive *Salmonella typhi* in Southeast Turkey *continued from page 3*

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II. Summary of Knowledge and Skills Obtained

This infectious disease fellowship has allowed me to develop the skills to be able to independently perform PCR, PFGE, and ribotyping, important strategies to enhance the understanding of molecular epidemiology of the important bacterial pathogens in southeast Turkey. I was exposed to various epidemiologic study designs and participated in a case-control study. My experience in Hamilton has given me the knowledge and skills to develop a molecular-biology-based research program in southeast Turkey. ❖

Specific Cellular Responses and Cytokine Patterns in Patients with Acute Hepatitis C Virus Coinfected with Schistosomiasis: Corroletion to Outcome of Infection

by Sanaa A. Kamal, MD

Hepatitis C virus infection represents a health problem affecting an estimated 170 million people worldwide and 10%–31% of the population in Egypt. Schistosomiasis is a chronic helminthic disease infecting more than 200 million people worldwide. Infection with *Schistosoma mansoni* is endemic in Egypt, with a prevalence range of 17.5% to 42.9%. Concomitant schistosomiasis and HCV infection are common in Egypt. My previous work demonstrated that patients with concomitant chronic HCV and schistosomiasis fail to clear HCV viremia and progress to chronic hepatitis with higher incidence of liver cirrhosis and hepatocellular carcinoma than to patients with chronic HCV monoinfection matched for age, disease duration, and HCV genotype. However, the immunological aspects of this pattern of coinfection have never been reported due to absence of an animal model that can support both infections. Therefore, my research project focused on understanding how infection with *S. mansoni* modulates the host immune response to HCV. In the current project, which has been supported in part by the International Society for Infectious Diseases, we attempted to prospectively study the kinetics of HCV-specific CD4+ responses and cytokine patterns in patients with acute hepatitis C without and with *S. mansoni* coinfection and correlate these parameters to the clinical outcome and progression of acute hepatitis C. This required characterization of the immune responses (T helper proliferative responses and cytokine profile) in the peripheral compartment during the acute stage and in the peripheral and liver compartments in those who fail to clear HCV viremia and progress to histologically proven chronic hepatitis. I applied for the ISID Small Grants Program to train in techniques for isolation of intrahepatic lymphocytes and assessment of CD4+ and cytokines in the liver.

I had a very good opportunity to train in the Department of Infectious Diseases, Beth Israel Deaconess Medical Center, Boston, in Dr. Margaret Koziel's lab for 3 months (July–September 2000). While in Boston, I trained in isolation and expansion of intrahepatic lymphocytes, Elispot assays to detect different cytokine production in response to HCV antigens, and measurement of intrahepatic cytokine RNA expression in the liver using quantitative RT-PCR. I finalized a manuscript including the results of hepatitis C-specific CD4+ T cell and cytokine response in PBMCs in patients with acute hepatitis C without and with schistosomiasis.

Work currently in progress examines HCV-specific T cell responses in the liver of patients with chronic HCV evolution (both monoinfected or coinfected patients) and the associated cytokine response using the techniques I learned in Boston. The current study forms an ideal complement to the work in PBMCs, addressing how the response to HCV may be modulated by the presence of a chronic schistosome infection. Understanding the sequence of immunological events in this pattern of viral/parasitic coinfection will help in the development of new therapeutic strategies by manipulating or modulating the immune response. ❖

IJID Editorship to Change Hands

After five years as the founding editor of the *International Journal of Infectious Diseases*, Dr. Donald Armstrong is stepping down from the post. The ISID Publications Committee is pleased to announce their unanimous selection of Dr. Jonathan Cohen as Dr. Armstrong's successor, effective July 2001.

Meet the New Editor

Dr. Cohen is known to much of our membership for his research on sepsis and septic shock. He is Chairman of the Department of Infectious Diseases & Microbiology at the Imperial College School of Medicine in London and Chief of Service for Microbiology and Infectious Diseases for the Hammersmith Hospitals Trust. His department has an international reputation for the quality of both its research and its teaching. According to Dr. Cohen, "We host research students and clinical associates from all over the world and in addition provide formal tuition through the masters degree in infectious diseases that attracts high-calibre students from Europe, the Middle East, and Africa." This is a man more than familiar with the global character of infectious diseases.

Dr. Cohen was trained at the University of London, receiving his medical degree with distinction in surgery in 1974 and later completing a masters of science in medical microbiology. He served his residency as house officer at Charing Cross and Hammersmith Hospitals and was a Wellcome Fellow in Infectious Diseases at the London School of Hygiene & Tropical Medicine, as well as a Clinical Fellow in Infectious Diseases at Duke University Medical Center. Dr. Cohen was appointed Professor and Head of the Department of Infectious Diseases & Bacteriology at the Royal Postgraduate Medical School (now part of the Imperial College School of Medicine) in 1992. He is a founding member and chairman of the Clinical Infection Society, serves on the editorial boards of several prominent journals, and reviews regularly for major international journals.

Dr. Cohen and Dr. Donald Armstrong joined forces a few years ago as co-editors of what Dr. Cohen describes as "a brand-new, multi-author, state-of-the-art textbook"—*Infectious Diseases*—published by Harcourt Brace in 1999. "One of the guiding principles of this book was that it should better reflect the international nature of the subject, compared to some standard books which were more heavily orientated to North American or European practice. We were especially keen to recruit experienced clinicians from around the world to contribute in their area of expertise. Hence, working on this book not only gave me very considerable experience of detailed editing, but also has helped me establish links with many colleagues around the world."

Hail and Farewell

The ISID Executive Committee and the Publications Committee extend their warmest thanks to Dr. Donald Armstrong and to his team of editors for having gotten *IJID* off the ground and having made it such a successful venture for the Society. The tasks of launching a new journal, attracting quality material to fill its pages, establishing organizational and editorial processes to ensure its timely production, and bringing it to a level of stability to warrant its inclusion in *Index Medicus* are daunting at best. Dr. Armstrong accomplished all this in record time and in fine style. The Society is grateful for his dedication to the job and is more than appreciative of the success with which he carried it out. He leaves a proven publication with a growing readership and an ever-increasing pool of contributors—and he leaves it in capable hands.

What's Ahead for *IJID*?

Dr. Cohen has a strong track record in innovation, especially in teaching and training in infectious diseases in the UK. He sees great potential in *IJID* as a means of communication and education in a discipline that is "by its very nature" international. While many publishers are turning to electronic publications, Cohen understands that, for many readers, print journals remain accessible and therefore important. "My goal as Editor will be to reflect these two constituencies and to provide, with colleagues at ProMED-mail, an integrated and complementary service." Once he fully understands the demographics of *IJID*'s readership, Cohen hopes to be able to give the journal a clear focus and "flavor." "I will wish to encourage good clinical articles based on careful observation. I will consider commissioning clinical reviews from colleagues working in areas where particular diseases are endemic or have recently been epidemic. Local doctors will usually write more informed pieces than colleagues a long way from 'the action.'" Cohen intends to review procedural matters at the *Journal* as part of his settling in to the new job and to explore the best use of electronic communication in submission of papers, refereeing, and decision making.

The *IJID* office will move to London, where a new Managing Editor will be appointed to assume administrative control of processes from manuscript receipt to liaison with the *Journal*'s publisher. Six specialist editors will be appointed as well—senior players in the field of infectious diseases chosen to represent a geographically diverse mix—whose job will be to act as local ambassadors for the *Journal*, actively encouraging manuscript submission from local colleagues and identifying local issues that should be the subject of editorial reviews or perhaps supplements.

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IJID Editorship to Change Hands *continued from page 5*

Dr. Cohen anticipates that the logical next step will be for *IJID* to become a bimonthly publication, a step that may be taken over the next two to three years. "Quarterly publication is probably insufficient for a field such as infectious diseases." Most exciting, says Cohen, will be the development of links between ProMED-mail and the *Journal*. "The goal is for these two to be seen as complementary resources." And he sees the possibility of incorporating a "Last Month on ProMED-mail" column into the *Journal* to cover issues of topical interest and to provide access to ProMED-mail to those who have not had Internet access on a regular basis.

Cohen says that, while there are already a number of infection-related journals, "*IJID* can serve a constituency and fulfill a role that none of the others do at present. In developing this role, we must retain the highest standards and strive to improve the journal's ranking in terms of metrics such as citation indices. The present Editor has done an outstanding job, and much hard work will be needed to develop the journal to even greater things." ❖

New Developments in ISID Membership

by Tim Brewer, ISID Program Director

Since its inception, the ISID has been based on individual membership rather than on a federation of other Societies. The founding organizers of the Society recognized the need for an organization that would bring together individuals interested in infectious diseases from around the world. Over the past 15 years, the Society has grown to include over 20,000 members in 155 countries.

The Society has recently undertaken a number of improvements to simplify the process by which someone may become an ISID member and to help existing members better understand the benefits they receive from the Society. Membership is divided into two categories, Regular and Corresponding. Any individual interested in infectious diseases may become a regular member of the Society. You may become a regular member by paying the membership fee or the full registration fee for the International Congress on Infectious Diseases. The term of membership is two years. The current membership fee is $135 for two years.

The second category of membership is Corresponding Member. The Society recognizes that many individuals interested in infectious diseases live and work in low-resource areas. These colleagues are an essential part of the Society's membership and mission to find global solutions for infectious diseases. Corresponding membership in the Society is available without charge through application to the Society. The benefits for Regular and Corresponding members are described both in the Society's brochure and on our web site at http://www.isid.org.

New membership cards will soon be sent to all current regular members. The card will provide all regular members with a unique identification number and the terms of their membership. The membership number will allow regular members to access resources from the Society's web site available only to members. The Society hopes these improvements will assist existing regular members in better understanding their benefits and encourage others interested in the field of infectious diseases to become regular members of the Society. ISID will continue to look for new and better ways of meeting the educational and training needs of physicians, researchers, and public health officials around the world interested in infectious diseases. ❖

Calendar of Events

2001

1–4 April. *11th European Congress of Clinical Microbiology and Infectious Diseases.* Istanbul, Turkey. **Contact:** ESCMID Executive Office, c/o AKM Congress Service, P.O. Box, CH-4005 Basel, Switzerland; tel, (41 61) 686 77 11; fax, (41 61) 686 77 88; e-mail, info@akm.ch; web, http://www.akm.ch/eccmid2001.

12–13 April. *3rd International Symposium on Antimicrobial Agents and Resistance.* Coex Center, Seoul, Korea. **Contact:** Mrs. Susan Chung, 50 IL-won dong Kangnam-ku, Seoul, 135-710, Korea; tel, 82-23410-0327; fax, 82-2-3410-0328; e-mail, jhsong@ smc.samsung.co.kr or susan@smc.samsung.co.kr

27–28 April. *3rd Annual Conference on Gram-Positive Cocci Infections in Humans.* New York Marriott Financial Center, New York, USA. **Contact:** Imedex; tel, 770-751-7332; web, www.imedex.com

1–5 May. *10th Congress of Panamerican Society of I.D. (API).* Guadalajara, MEXICO. **Contact:** Dr. José Ignacio Santos, email, jisantos@supernet.com.mx. Concejo Nacional de Vacunación Francisco P. Miranda No. 177, Colonia Merced Gomez, 01600 México D.F., MEXICO. Hospital Infantil de Mexico, Dr. Márquez 162, Col Doctores, 06720 México D.F., MEXICO. tel, 52-5 761-4957; fax, 52-5 761-8530

25–27 May. *2nd International Conference on Transplant Infectious Disease.* Stockholm, Sweden. **Contact:** Congrex Sweden AB, Att: Transplant Infections, PO Box 5619, SE-11486 Stockholm, Sweden.

14–16 June. *XIth Symposium on HIV Infection, AIDS 2001: 3rd Decade of an Odyssey.* Toulon, France. **Contact:** Albine Conseil, 7, Boulevard Paul Emile Victor, 92521 Neuilly sur Seine; tel, 33 1 47 47 57 37; fax, 33 1 46 40 70 36; e-mail, bettina.albine@wanadoo.fr

26–27 June. *Clinically Relevant, Rapid Microbiology Workshop, (EPA ASM) at the Thomas Jefferson Medical College.* Philadelphia, USA. **Contact:** Julie Conaron, 3455 Baldwin Road, Huntingdon Valley, PA 19006; tel, 215 947 8917, e-mail, conarond@erols.com, web, http://www.med.upenn.edu/~epaasm

27–29 June. *6th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Infections.* Sitges, Barcelona, Spain. **Contact:** Organizing Secretariat; tel, 34 93 221 22 42; fax, 34 93 221 70 05; e-mail, vir@geyseco.com; web, www.geyseco.com/endocarditis2001.htm

2001

30 June–5 July. *22nd International Congress of Chemotherapy.* Amsterdam, The Netherlands. **Contact:** Congress Secretariat, Eurocongres Conference Management, Jan Van Goyenkade 11, 1075 HP Amsterdam, The Netherlands; tel, (31 20) 679 3411; fax, (31 20) 673 7306; e-mail, icc@eurocongress.com; web, http://eurocongres.com/icc.

8–11 July. *1st IAS Conference on HIV Pathogenesis and Treatment.* Buenos Aires, Argentina. **Contact:** Conference Secretariat, Congresos Internacionales S.A., Moreno 584, 9th Floor, Buenos Aires, Argentina; tel, 54 11 4342-3216; fax, 541 11 4331-0223; e-mail, aids2001@congresosint.ar; web, www.aids2001ias.org

1–3 September. *3rd International Meeting on Respiratory Care Indonesia (RESPINA 2001).* Jakarta Convention Center. **Contact:** Dr. Menaldi Rasmin; tel, 62-21-489-0744; fax, 62-21-480-0744; e-mail, pactoltd@idola.net.id; web, www.respina.com

2–7 December. *Joint Congress of the Infectious Diseases and Sexually Transmitted Diseases Sociey of Southern Africa.* Spier Estate, Stellenbosch, South Africa. **Contact:** Sune Van Rooyen, Infectious Diseases Congress, PO Box Tygerberg, 7505; tel, 021 938-9245/9238; fax, 021 933 2649; e-mail, sdk1@gerga.sun.ac.za, lh@gerga.sun.ac.za

3–5 December. *Resistant Gram-Positive Infections.* San Antonio, Texas. **Contact:** Mr. D. Leshem, Suite 400, 630 3rd Ave. New York, NY 10017; tel, (212) 697-8553; fax, (212) 687 9386; e-mail, unit@netvision.net.il

14–17 December. *'nems 2001.* Venice, Italy. **Contact:** Giuseppe Cornaglia, MD, Institute of Microbiology, University of Verona, Strada Le Grazie, 8 – 37134 Verona, Italy; tel, 39-045-8098196; fax, 39-045-584606; e-mail, guiseppe@borgoroma.univr.it

2002

11–14 March: *10th International Congress on Infectious Diseases (ICID).* Singapore. **Contact:** ISID, 181 Longwood Avenue, Boston, MA 02115; tel, (617) 277-0551; fax, (617) 731-1541; e-mail, isidbos@aol.com; web, http://www.isid.org

July. *XIV International Conference on AIDS.* **Contact:** Edifici Apollo X, Balmes, 200 at. 9, 08006 Barcelona, Spain; tel, 34 932 182 404 or 34 932 922 923; fax, 34 932 170 188; e-mail, aids2002@bcn.servicom.es; web, http://www.aids2002.com.

Save the Date!

10th International Congress on Infectious Diseases
Singapore • March 11 to 14, 2002

For further information please contact the

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Demographic Information

Education:

- ❑ MD (or equivalent)
- ❑ PhD
- ❑ Other_____

Primary job-related activity:

- ❑ Administration
- ❑ Teaching
- ❑ Research
- ❑ Clinical Microbiology
- ❑ Clinical Infectious Disease Care
- ❑ Other_____

Areas of interest:

- ❑ Antimicrobial & Antiviral Resist.
- ❑ Bacterial Infections
- ❑ Clinical Microbiology
- ❑ Drug/Diagnostic Development
- ❑ Epidemiology and Public Health
- ❑ Genetics/Immunology
- ❑ HIV
- ❑ Mycology
- ❑ Mycobacteriology
- ❑ Nosocomial Infections
- ❑ Parasitic Infections
- ❑ Vaccines
- ❑ Viral (non-HIV) Infections
- ❑ Other_____

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