ESCMID
ESCMID European Council 2002 Minutes

Education
2nd ESCMID School of Clinical Microbiology and Infectious Diseases 2003

Features
Global Climatic Change is Fuelling Infectious Disease in Europe and Beyond

Forum
The Present Status of Clinical Microbiology in Europe
**MALARIA**

This issue’s title page shows an electron microscopic picture of *Plasmodium ovale* from a ruptured erythrocyte in a thin blood smear (micrograph from the CDC’s Parasite Image Library). Malaria is a serious, sometimes fatal disease. According to World Health Organization (WHO) estimates 300–500 million cases of malaria occur yearly and more than 1 million people die as a result of it. In humans four different one-celled parasites can cause malaria: *Plasmodium vivax*, *P. malariae*, *P. ovale*, and *P. falciparum*. These protozoa are spread to humans by mosquitoes. After biting an infected person, a mosquito can then infect another person one week later.

From the very beginning malaria parasites have been with us, probably originating in Africa along with mankind. Fossils of mosquitoes up to 30 million years old show that the vector for malaria was present well before *Homo sapiens*. Although the majority of malaria cases today is found in Africa, global climatic changes will most likely facilitate the spread of the malaria vector into new regions or previously endemic malaria regions. At the same time scientists are diligently working to sort out and process the reams of biological data that have been collected on *Anopheles gambiae*, the main malaria vector, and on *P. falciparum*. The recently acquired genome information on the two species, a result of six years of research by an international consortium, improves the opportunity for scientists to develop new medicines, vaccinations, and insecticides. Most of these target the direct elimination of the parasite or the vector or improve host defence. However, new and innovative approaches may also ensue. For example US scientists supported by the National Institute on Deafness and Other Communication Disorders (NIDCD) are attempting to use genetic knowledge to ‘outsmart’ the mosquito’s sense of smell, so that it is prevented from biting humans. Certainly the future with regard to malaria will hold many surprises.

**REFERENCES**

Dear Colleagues,

ESCMID is pleased to provide you with the third issue of ESCMID News for 2002. The present issue continues to give you new information about the Society’s activities. The minutes of the ESCMID European Council meeting in Milan report on suggestions for new initiatives in Clinical Microbiology and Infectious Diseases in Europe. More than 130 ESCMID scholarships, i.e. travel grants or free registration to ESCMID events, were awarded in 2002. These awards are considered to be a crucial part of ESCMID’s activities.

The presentation of the ESCMID Study Groups continues with a portrait of the European Study Group on Antibiotic Policies (ESGAP). A brief description of ESCMID’s online job classified section is described in this issue. A new section called Member Spotlight is introduced in this issue. It will present a brief portrait of a regular member of ESCMID, in each issue from a different country, to illustrate in an entertaining way the variety of different professional and personal backgrounds of our members across Europe.

The plans for the new ‘virtual’ editorial office of our journal Clinical Microbiology and Infection are also presented in this issue. The postgraduate courses are important activities of ESCMID and the announcements for the 21st and 22nd courses can be found in this newsletter. The second ESCMID School of Clinical Microbiology and Infectious Diseases will take place in Utrecht, The Netherlands, June 28–July 4, 2003 with morning plenary sessions and afternoon group discussions. A careful survey on the present status of Clinical Microbiology in Europe reveals a complex situation. Clinical Microbiology is recognized as a specialty in many different countries in Europe. The survey gives a good background for future discussions about the specialty with UEMS (Union Européenne des Médecins Spécialistes). Professor Fernando Baquero, a distinguished member of our Society, is interviewed in this issue. Fernando Baquero is a fascinating person with many interests such as music, art, literature and, above all, research in microbiology and infectious diseases linked to biodiversity, ecology and adaptation. With this article we would like to initiate a new section that should be continued in future issues: The ESCMID Interview. In the first part of a review article on immortal music and deadly germs, the connection between music and death due to infections is described. Many famous composers were affected by infections such as tuberculosis and sepsis. Our feature article on global climatic changes discusses some of the ways climatic changes will affect the distribution and occurrence of infectious diseases such as malaria and cholera. Brief news items and forthcoming events in microbiology and infectious diseases are, as usual, presented in this newsletter. The European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) is the premier annual European infection meeting where the most important developments are presented. Original contributions of high quality should be the hallmark of our European Congress, and we hope very much that you will send one or more abstracts. The deadline for submission is January 8, 2003. We also urge you to take advantage of reduced early registration fees by registering before 10 February 2003 for the 13th ECCMID 2003 in Glasgow.

The Editorial Team wishes all ESCMID members and ESCMID News readers a successful New Year.

Carl Erik Nord
Past President
President Publication Committee
Message from the President

Dear Colleagues,

The European Union is undergoing a process of enlargement, as many of the countries bordering Eastern Europe sign up for membership. The population base of the EU will increase substantially to approximately 500 million. This presents not only enormous political challenges, but will also mean that organisations such as ESCMID will have expanding opportunities and responsibilities to colleagues across the EU in the disciplines of clinical microbiology and infectious diseases.

It has become increasingly clear that the educational needs of specialists and trainees in Europe are substantial. Likewise, the diagnostic and support services necessary for the diagnosis and management of infection vary widely. This coincides with a reassessment and reorganisation of public health services in many countries in response to new challenges that have arisen, or might arise, with the advent of bio-terrorism. It is important, therefore, that there be a sharing of knowledge and expertise as we truly enter the era of the global village.

The ESCMID Executive is giving considerable thought as to the manner in which the resources of the Society can be used most effectively to support the educational, professional and scientific needs of existing and future members within the expanded EU. Furthermore, and in recognition of the increasing contacts between our Society and colleagues in Russia, a delegation from the Executive will be holding exploratory discussions in Moscow, with various representatives of the Ministry of Health, Academia and health care professionals, as to the manner in which our Society can support a strategy to strengthen the disciplines of clinical microbiology and infectious diseases.

Many societies and organisations contribute to the academic and professional life of colleagues within Europe and beyond. ESCMID recognises their important contribution and is increasingly collaborating with a number of key international organisations. Recent examples include the joint Workshop with SHEA and a symposium at the IUMS Congress in Paris. These were both highly successful events. The Federation of European Microbiological Societies will be holding its first congress in Ljubljana next year. In addition to contributing to a joint symposium, the Society is also developing a number of collaborative ventures with FEMS, which I believe are innovative and exciting and emphasise the need to increase co-operation between clinical and basic sciences in order to unlock new solutions relevant to the pathogenesis and control of infectious disease.

Members of the Society have also contributed to the second International Forum on Antibiotic Resistance when educational policies and strategies were reviewed from an international perspective. Likewise, contributions were made to the recent Workshop in San Diego organised by the US Centers for Disease Control in relation to international strategies for controlling antibiotic resistance. Finally, several members are contributing significantly to advising the European Commission on the 6th Framework Programme research initiative.

Another important policy decision endorsed by the Executive relates to the development of a European Public Affairs Consultant Group. This should strengthen the increasing involvement of the Society with EU research and policy initiatives. I would like to take this opportunity of congratulating Professor Emilio Bouza and his team for the successful manner in which Clinical Microbiology and Infection has developed under his leadership. The regular editions are of increasing scientific interest and are now regularly complemented by a stimulating array of supplements. It will be no easy task to identify his successor. However, I am hopeful, since there has been significant interest in the advertisements for this post. Once an appointment has been made this will be publicised soon through our web-site and journal.

In mentioning web-sites, I would encourage you to interrogate the ECCMID 2003 Internet site (www.akm.ch/eccmid2003) or via the Society’s website (www.escmid.org). The scientific programme for Glasgow is far advanced and promises to be extremely interesting and challenging with many new ideas and, of course, world-class speakers. Glasgow is also a most hospitable venue. I am also pleased to report that sponsorship is already up on last year, which is reassuring in view of the various mergers that have taken place within industry. I encourage you to register.

In closing, I should like to take this opportunity of wishing Members of the Society and all readers of this Newsletter the best of Season’s Greetings.

Roger Finch
President, ESCMID
MEETING DURING 12TH ECCMID 2002, MILAN, ITALY, APRIL 25, 2002

1 WELCOME AND PRESIDENT’S ADDRESS
Roger Finch welcomed the participants to the European Council 2002 meeting. He especially welcomed the representative of the Society for Microbiology and Epidemiology of the Slovak Medical Association, which was accepted as a new member organisation a few days ago. A total of 84 country representatives, representatives from the associated specialist societies and study group chairpersons were invited, 39 thereof attended. He then referred to the European Council meeting minutes for 2001, which were published in ESCMID News 3-2001. Out of the many ongoing activities in the Society (for a summary he referred to ESCMID News 1-2002) he mentioned only two: i) During the year in which Italy hosts ECCMID, ESCMID is pleased to extend its affiliation pilot programme by also including the major Italian organisation for Clinical Microbiology (AMCLI, Associazione Microbiologi Clinici Italiani). This programme, which explores new ways to collaborate with other organisations, now involves three national societies. It will be evaluated at the end of 2002; a report will be given at the European Council meeting in 2003. ii) A constructive relationship has been established with the UEMS Specialist Sections of Medical Biopathology and Infectious Diseases. It is based mainly on training programmes and/or the accreditation of CME (see below).

2 COOPERATION WITH EUROPEAN SOCIETIES
Roger Finch reminded the audience of his statement a year ago that ESCMID supports a process of convergence towards a single annual European congress in the fields of Clinical Microbiology and Infectious Diseases. Meanwhile an ESCMID task force has met with representatives from FESCI and ISC to discuss various options. The obstacles in reaching the goal of a single annual congress should not be underestimated. They arise from the different nature of the societies involved, the format and ownership of the congresses as well as the financial and organisational implications. Admittedly the solution has not yet been found. Roger Finch confirmed that the search will continue and that ESCMID is committed to the goal of a single European congress.

Questions and comments from the floor: Niels Frimodt-Møller, DK, asked about the industry’s opinion. According to Roger Finch all companies that expressed their views were supportive and would welcome a reduction of congresses in Europe in the infection disciplines. Pentti Huovinen, FIN, emphasised that the combination of Clinical Microbiology and Infectious Diseases is one of ECCMID’s strengths and should be maintained. Roger Finch agreed and confirmed that splitting ECCMID into two separate congresses, as is the case with ICAAC and the ASM General Meeting in the US must be avoided. When the possible format of a new congress was discussed, Roger Finch mentioned that 3 full congress days is a maximum with the possibility of a limited number of satellite events on the opening day prior to the opening ceremony. Nobody was in favour of having a longer congress. Martin Wood, UK, and Lenie Dijkshoorn, NL, agreed with the evaluation of the present situation but expressed their wish to have more influence on the congress’s scientific programme. Especially Martin Wood questioned the value of the European Council as an advisory body and advocated a model in which the national societies can submit proposals and have voting rights. According to Roger Finch ESCMID is open to discussing better integration of national societies in the context of affiliation. Currently the ECCMID Programme Committee has ownership of the scientific programme, but he assured the audience that the Executive listens attentively to the members of the European Council.

3 CMI EDITOR-IN-CHIEF: POSITION AVAILABLE IN 2003
Carl Erik Nord, Head of the ESCMID Publication Committee, informed the Council that the present Editor-in-Chief of the Society’s journal Clinical Microbiology and Infection (CMI), Emilio Bouza, Madrid, will resign at the end of 2003. A new editor will be appointed in early 2003 to guarantee a smooth transition. A regular term is to last a maximum of 5 years, renewable if deemed appropriate. A central managing office located in Paris and an online manuscript submission and tracking system will be introduced in early 2003 to support the editorial process. The advertisement for the new Editor will be published in various media. Applications from ESCMID members are welcome.

4 EBAID: EUROPEAN BOARD FOR THE ACCREDITATION OF CME IN THE FIELD OF INFECTIOUS DISEASES
Peter Schoch, ESCMID Managing Director, informed the audience that the UEMS Specialist Section and Board of Infectious Diseases have decided to establish a European Board for the Accreditation of CME in the field of Infectious Diseases (EBAID). The board will be linked to EACME, the European Accreditation Council for CME, which is operated by UEMS in Brussels, and administratively supported by the ESCMID Executive Office. The goal is the facilitation and harmonisation of accreditation of CME activities with international participation across Europe. After the operational details are settled, further instructions and an application form for European CME credits will be available on the ESCMID website.

5 ANY OTHER BUSINESS
Future Congress Venues for ECCMID
To avoid problems with conference facilities as have occurred in 2002 with the Fiera Milano, Roger Finch announced that, in the future, ESCMID will play a more active role in selecting the best congress venues and no longer make formal calls for bids from national societies. Selection of congress venues will be based on strict strategic criteria such as conference facilities, costs, accessibility, and prospective participation.
The individuals listed below were awarded an ESCMID attendance grant in 2002 for one of the following events:

**12th ECCMID 2002 Milan** (travel grants and/or free registration)

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ESCIMID’s Online Job Classifieds

As part of ESCMID’s effort to become more involved in CM/ID professional affairs, we would like to remind you that advertisements for open positions can be placed online, free of charge. If you are either looking for a new position or a new employee, visit our website, put your ad online and reach more people.
European Study Group on Antibiotic Policies – ESGAP

The rising tide of resistance to antimicrobial drugs is a matter of concern to all those involved in infectious diseases, whether from the perspective of treating the disease, providing the antimicrobial agent or as a patient. It is accepted by most that there is frequently an association between an increase in the use of antimicrobials and an increase in resistance but whereas surveillance studies provide valuable information on resistance, there are far less good data on antimicrobial use. A paper published in 2000 [1] described one approach to assessing antimicrobial use and relating this to the level of resistance in a Spanish hospital. This approach is now extended to other hospitals in Spain, Scotland, The Netherlands and France in the ViResiST network. In spite of a lack of extensive information, there are clear indications that the overuse of antimicrobials plays a major role in the development of resistance and it is thus essential that antimicrobials are only used when necessary and in the most appropriate way. It has been shown in some cases that it is possible to reduce a high level of resistance in certain organisms by reducing the use of certain antimicrobials, but this is not always so.

The European Study Group on Antibiotic Policies (ESGAP) was set up in 1998 in an attempt to address various aspects of this difficult subject. The inaugural meeting was held at the 9th ECCMID in Berlin with Professor Jos van der Meer as Chairman and Dr Ian Gould as Secretary. The current Chairman is Dr Ian Gould and the Secretary is Dr Dominique Monnet. As with all ESCMID study groups the overall aims are to promote communication between interested parties in member countries. With ESGAP, a major aim is to provide a forum for those involved in antibiotic stewardship at all levels to communicate with one another and to establish links between any existing networks. Additionally such a study group should promote an awareness of antibiotic misuse and a better understanding of the factors involved in such misuse. It is hoped that ESGAP can play a role in standardising policies on the use of antimicrobials and that it will formulate strategies of antimicrobial stewardship designed to reduce or control the development of resistance.

Possible Conflicts of Interest
Some authorities have tried to encourage a reduction in the use of antimicrobials as a means of controlling or reducing resistance, but this could be seen as being against the natural instinct of practitioners who wish to do the best for their patients. In addition, the pharmaceutical industry might also regard any reduction in use as detrimental to their interests [2]. The ESGAP addressed this conundrum in a stimulating symposium held at the 11th ECCMID in Istanbul, ‘Conflicts of Interest between the Prescriber, the Regulator and the Profit Maker’, the proceedings of which were published as a Supplement in CMI [2]. Contributions included: views on the regulatory system, input from the pharmaceutical industry and from medical practitioners. A major point made was that misuse (i.e. inappropriate use) was as important as overuse of drugs at driving resistance. An additional common theme that emerged was the need for education at all levels, whether for the general practitioner, the hospital prescriber or the pharmacist.

ABC Calc – Antibiotic Consumption Calculator
It is clear that whilst methods of assessing the extent of resistance among pathogenic bacteria have improved, with many good surveillance systems now in operation, there is a lack of good systems for assessing the use of antimicrobial agents. It is in this area that the ESGAP has already made major contributions with the availability of ABC Calc. This is a means of assessing antibiotic consumption using a simple computer tool that can be downloaded free-of-charge from the ESCMID homepage (ESGAP sub-section) in Microsoft Excel® format. Defined Daily Doses (DDD) are used, as recommended by the World Health Organisation (WHO) and it attempts to simplify application of the WHO recommended method for single hospitals [3].

ABC Calc was developed as part of the Danish DANMAP project and is currently only suitable for systemic compounds (Group J01 of the Anatomical Therapeutic Chemical index). It is hoped that widespread use of ABC Calc will allow comparisons between different hospitals in different countries. Until now, although the WHO method was available, it was perceived by many to be too complex and was modified in varying ways making it difficult to compare data across hospitals.

ARPAC
The aims of ESGAP are ambitious and there are clearly areas of common interest with other study groups. An area where co-operation has occurred very successfully with other groups is in the setting up of ARPAC (Antibiotic Resistance: Prevention and Control) [4], a concerted action research project funded by the European Commission (EC). The prime aim of ARPAC is to develop strategies for the control and prevention of antibiotic resistance in European hospitals. To do this it is necessary to understand the emergence and epidemiology of resistance to antimicrobial drugs.
crobials in human pathogens and to harmonise strategies for the prevention and control of resistance. It is hoped to identify antimicrobial policies and prescription patterns associated with lower rates of resistance and to identify infection control policies associated with low rates of incidence of resistant strains.

As well as ESGAP, there are three other ESCMID Study Groups involved in ARPAC; ESGARS (European Study Group on Antimicrobial Resistance Surveillance), ESGNI (European Study Group on Nosocomial Infections) and ESGEM (European Study Group on Epidemiological Markers).

ARPAC is being co-ordinated at Aberdeen Royal Infirmary by Dr Ian Gould and Dr Fiona MacKenzie. The specific role of ESGAP within ARPAC is to compile an inventory of antimicrobial consumption, prescribing habits, policies and stewardship in European hospitals. An open letter has been circulated to all members of ESCMID inviting them to participate in ARPAC. Participants are requested to provide annual retrospective data once in 2002 and once in 2003. Data on resistance will be the responsibility of ESGARS who will compile results on key antimicrobial/organism combinations. The documentation of the various infection control policies will be the responsibility of ESGNI and ESGEM will develop a DNA typing database and data exchange format for tracking epidemic resistant organisms.

ESGAP Activities
ESGAP has been active in organising a number of symposia and workshops. There has been a symposium at each of the recent ECCMID meetings, the most recent one (12th ECCMID in Milan) being entitled ‘Effective Control of Antimicrobial Resistance’. This symposium consisted of two presentations on the evaluation of antibiotic policies, one on the measurement of antibiotic consumption, and one on the effects of intervention. In addition, at the 12th ECCMID in Milan in 2002 a symposium was held jointly with the British Society for Antimicrobial Chemotherapy, entitled ‘Quality Improvement in Antibiotic Prescription’. ESGAP has also arranged various events separate from ECCMIDs. At the 42nd Interscience Congress on Antimicrobial Agents and Chemotherapy (ICAAC) in San Diego in September 2002, a very successful symposium was held entitled ‘The Relationship between Antibiotic Use and Resistance: Methodological Issues’. A full day workshop was held immediately prior to the 2002 ICAAC entitled ‘Monitoring and Evaluation of Antimicrobial Use in Health Care Facilities’.

Future Activities
The success of the pre-ICAAC workshop has led to another one being planned for the 2003 ICAAC. A postgraduate course on ‘Measuring, Auditing and Improving Antimicrobial Prescribing’ is planned for immediately before the next ECCMID in Glasgow 2003.

A new project will be the setting up of an international exchange and training scheme whereby young investigators can spend time in a hospital or a research centre in another country. A first grant for international exchange is offered in 2003 (see Box).

Finally, more emphasis will be placed on obtaining information from Central and Eastern Europe in the future since it is clear from a previous survey [5] that the prescribing of antibiotics in hospitals from this area of Europe is far less controlled than in the rest of Europe.

Pamela Hunter
Medical Writer

REFERENCES
2. Conflicts of interest between the prescriber, the regulator and the profit maker. Editor IM Gould. Clin Microbiol Infect 2001; 7 (Suppl 6)
3. Anatomical Therapeutic Chemical (ATC) classification index with Defined Daily Doses (DDDs). WHO Collaborating Centre for Drug Statistics and Methodology, Oslo, Norway 2002

ESGAP International Exchange Grant 2003

PURPOSE
The purpose of this grant is to promote exchange of experiences in the field of antimicrobial consumption and antibiotic policy and to train junior scientists in hospitals and research centres in Europe that already have an experience in this field.

GRANT
The grant will cover economy class airfare, accommodation and meals for a period of 2 months and up to a total of EUR 2,500.

ELIGIBILITY CRITERIA
Applicants for the grant must be a European junior microbiologist, infectious disease specialist or pharmacist who is working or plans to work with local or national antimicrobial consumption analyses and antibiotic policies.

APPLICATION PROCEDURE
The application consists of a letter describing the applicant’s reasons for applying, training needs and expectations of such an exchange, together with the applicant’s curriculum vitae. The application must be received by 30 April 2003.

SELECTION PROCEDURE
The recipient of the grant will be determined by the ESGAP Executive Committee. The Committee will then organize the recipient’s training according to his/her needs, possibly in several hospitals or research centres that will be visited during the 2-month period.

Please send your application to: Dominique L. Monnet (ESGAP International Exchange Grant), Dept. of Antimicrobial Resistance and Hospital Hygiene, Statens Serum Institut, Artillerivej 5, DK-2300 Copenhagen S, Denmark. Email dom@ssi.dk
The CMI editorial office is in the process of converting to a web-based editorial process, which we anticipate will facilitate submissions and contribute to the efficiency of the peer review procedure. Many of you are already familiar with this concept, a brief overview of which is given below. Please watch for the announcement of timelines and further instructions on the website and in the next issues of CMI.

Judith Crane
Managing Editor
on behalf of the Publications Committee

Features of the Web-based Editorial Process:

- Browser based
- Accessible world-wide
- Accessible round-the-clock
- Database driven
- Highly secure
- Configurable

- Integration across communities, processes, media platforms
- Accepts multiple file formats
- Provides search functions
- Comprises all steps of submission/review/tracking

**Author Module**
Access to status of own submission in process
Functions:
- Submit full text and graphics
- Receive immediate automated confirmation
- Receive reviewers’ comments
- Respond to reviewers’ comments
- Re-submit revised version
- Receive editorial decision
- Receive pdf proof pages

**Reviewer Module**
Access to submission under review
Functions:
- Receive submission to review
  (Option to review online)
- Register editorial decision
- Receive final editorial decision

**Editor Module**
Access to submissions within editorial process
Functions:
- Receive incoming submissions
- Assign Reviewers
- Register editorial decision
  (Option to add comments or notes)

**Administrator Module**
Access to status of all submissions
Access to complete database
Functions:
- Track submissions, author data, reviewer data
- Monitor automatic correspondence
- Provide reports/statistics

**Who Has Influenced You the Most Professionally and Why?**
George Griffin and Derek Macallan were my mentors during a Wellcome Trust Fellowship at St George’s Hospital Medical School in London. They are excellent, meticulous and creative researchers, and most of what I know about the metabolic host response to infection I have learned with them.

**What Would You Also Have Liked to Do If You Had Not Had the Chance to Enter Your Current Profession?**
I would have loved to be a musician. Whoever has listened to me practicing the violin will thank heaven that I became a physician.

Member Spot

Achim Schwenk

Achim Schwenk is German and lives in London, UK

**OF WHAT DOES YOUR DAILY WORK MAINLY CONSIST?**
My current schedule is quite exceptional as I have a gap between two hospital posts. I can spend whole days on writing up a research paper. I have just ended a locum post as consultant in HIV and ID at a teaching hospital in Central London. More than half of my time was spent with patients – in clinics or ward rounds. Clinical teaching and administration made up for the rest.

**WHAT PART OF YOUR WORK DO YOU MOST ENJOY?**
Seeing patients and clinical training of junior doctors.

**WHO HAS INFLUENCED YOU THE MOST PROFESSIONALLY AND WHY?**
George Griffin and Derek Macallan were my mentors during a Wellcome Trust Fellowship at St George’s Hospital Medical School in London. They are excellent, meticulous and creative researchers, and most of what I know about the metabolic host response to infection I have learned with them.

**WHAT WOULD YOU ALSO HAVE LIKED TO DO IF YOU HAD NOT HAD THE CHANCE TO ENTER YOUR CURRENT PROFESSION?**
I would have loved to be a musician. Whoever has listened to me practicing the violin will thank heaven that I became a physician.
OUTSIDE OF YOUR OWN SPECIALTY WHAT DO YOU THINK IS THE MOST EXCITING FIELD OF SCIENCE AT THE MOMENT?
Most exciting, but also most frightening, the rapid advances in molecular genetics. For the time being, I think we are merely babbling single syllables in the great language of life. I don’t dare predicting what this will change in our lives.

FROM WHERE DO YOU GET YOUR DAILY MOTIVATION?
People are just fascinating. One truthful, compassionate and productive encounter with a patient or colleague will make my day. In the absence thereof, having a good laugh will do.

WHAT DID YOU ALWAYS WANT TO KNOW?
Why on earth, as soon as it starts raining, can’t British trains run on time?

WHAT IS THE MOST IMPORTANT LESSON YOU HAVE LEARNED IN LIFE?
Put your mind where your heart is.

WHAT IS THE PASSION OF YOUR LIFE APART FROM YOUR PARTNER?
A five course French dinner with a bottle of Bordeaux and good friends.

IF YOU COULD CHANGE ONE THING IN THE WORLD, WHAT WOULD IT BE?
Why not start with something very simple. Convince the South African president that he must give up his denial of AIDS/HIV in order to prevent half of the 70000 mother-to-child transmissions of HIV occurring each year in his country.

Announcement

2nd ESCMID School of Clinical Microbiology and Infectious Diseases

Utrecht, the Netherlands
June 28–July 4, 2003

A one-week course dedicated to postgraduate and continuous medical education. The programme covers most of the relevant topics in clinical microbiology and infectious diseases, thus being of particular interest to young MD’s at the end of their specialty training. By providing short reviews and well-selected case studies, the ESCMID School helps the students to prepare for their examination.

For details see the ESCMID homepage at www.escmid.org from mid-January on.

Organised by the ESCMID Education Committee

Under the auspices of the University Hospital Utrecht, Department of Medicine
Challenges in Infection – Advancing Patient Care
21st ESCMID Postgraduate Education Course
Basel, Switzerland, May 7–8, 2003

This symposium is organised by the University Hospital Basel and addresses strategic issues of antiretroviral therapy. ESCMID funds a limited number of attendance grants for young European scientists to attend this course.

For further information please visit the website (www.challenges.ch/index.html) or contact:
Professor Manuel Battegay, Division of Infectious Diseases, University Hospital Basel, Petersgraben 4, CH-4031 Basel
Fax +41 61 265 31 98, Email mbattegay@uhbs.ch

Measuring, Auditing and Improving Antimicrobial Prescribing
22nd ESCMID Postgraduate Education Course
Ayrshire, Scotland, May 9–10, 2003

This symposium is organised by the ESCMID Study Group on Antibiotic Policies (ESGAP) and addresses many aspects related to the prescribing of antimicrobials.

For further information please contact:
Jacqueline Cooper, Dept. of Medical Microbiology, Aberdeen Royal Infirmary, Foresterhill, Aberdeen, Scotland AB25 2ZN, UK
Phone +44 1224 554954, Fax +44 1224 550632, Email Jacqueline.Cooper@arh.grampian.scot.nhs.uk
or see the ESCMID website at www.escmid.org, Courses & Workshops
Dear Colleagues

It is with great pleasure that we invite you to Scotland for the 13th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). The ECCMID has rightly secured its place as the premier scientific congress in its field and we are confident that Glasgow will maintain this scientific excellence while giving you the opportunity to sample the renowned Scottish hospitality, marvellous scenery and a European city of culture.

The scientific and organising committees have put together a truly exciting and innovative programme which reflects the latest advances in basic sciences, clinical microbiology, diagnostics, infectious diseases, antimicrobial chemotherapy, infection control and epidemiology. In addition, we are planning several innovations in the way data is presented at ECCMID including poster walks, a European network corner, educational updates and literature reviews.

On the cultural side, Glasgow has famously developed from a major industrial city and sea-port of the British Empire into a modern European city of cultural significance and a major shopping hub (second only to London). Yet it has retained most of its impressive Victorian architecture and has many fascinating historical sites as well as numerous art galleries and museums. While Scottish weather is not always ideal, May is the driest month and spring will be in the air.

We are confident that ECCMID in Glasgow will be scientifically, culturally and socially rewarding and that you will return home with new ideas, new friendships, rekindled old friendships and a determination to return to Scotland in the future to further experience its renowned hospitality.

We are looking forward to welcoming you in Scotland.

Dr. I. Gould  
President 13th ECCMID

Prof. R. G. Finch  
President of ESCMID

www.escmid.org/eccmid2003

Visit the 13th ECCMID website featuring:
• Continuously updated scientific programme
• Online abstract submission
Deadline: January 8, 2003
• Online registration
Deadline for early registration fee: February 10, 2003
• Online hotel & tour reservation
• Option to compose your personal congress programme
• Details regarding the pharmaceutical exhibition
• Information about the congress venue and the city of Glasgow

For further information please contact:
Administrative Secretariat
13th ECCMID 2003
C/o AKM Congress Service
P.O. Box
CH-4005 Basel
Switzerland
Phone +41 61 686 77 11
Fax +41 61 686 77 88
E-mail info@akm.ch
In the field of Clinical Microbiology (CM) professional issues such as educational requirements, the recognition of CM as a speciality, training programmes, quality assurance, etc. are regulated differently in the various European countries.

In order to have an overview of the situation in Europe and draw up a coherent policy, the ESCMID Executive Committee has initiated a process aimed at clarifying these issues, based on a survey among the elected national representatives and affiliated specialist societies regarding the situation in their respective countries.

In March 2002, a questionnaire was sent to all elected national representatives and to the representatives of national societies on the ESCMID European Council. ESCMID members from countries not represented on the Council were also sent the questionnaire, so that information from smaller countries could also be included.

The data in the returned questionnaires were mapped and re-submitted to all contributors in order to check the accuracy of the information, fill in any gaps and harmonise any discordant data from the same country.

Figures 1–8 summarise the main findings.

Figure 1 clearly shows that CM is currently recognised as an independent medical specialty in the overwhelming majority of European countries. CM has no recognised status in only eight countries (namely, Albania, Belgium, Luxembourg, Belarus, Moldavia, Portugal and Serbia & Montenegro); in France, Greece, Malta, and in all three Baltic Republics, it is a subspecialty of some other specialty. This clear picture is not reflected in the present UEMS (European Union of Medical Specialists) structures, where Microbiology is not an independent section but a subsection within the UEMS Specialist Section for Medical Biopathology, with which ESCMID has started active co-operation for harmonised training programmes and continuous medical education.

If the analysis is confined to the EU, it...
is noteworthy that CM is currently recognised as an independent medical specialty in 10 countries, lacks recognition status in only three countries (namely Belgium, Luxembourg, and Portugal), and is a subspecialty of some other speciality in France, Greece and Malta (Figure 2). The accession of several candidate countries will not only confirm but even reinforce this picture, since CM is currently recognised as an independent medical specialty in the clear majority of those countries (Figure 3).

Training in CM differs considerably among the different European countries. The duration of training is 3 years in Bosnia-Herzegovina, Macedonia and Switzerland; 5 years in the British Isles, Cyprus, the Scandinavian countries and many countries of Central-Eastern Europe; and 4 years in the Mediterranean area and in the easternmost European countries (Figure 4).

The training in Clinical Microbiology is offered only to medical doctors in fairly homogeneous geographical and cultural areas such as the British Isles, the Scandinavian countries, the German-speaking and the Aegean regions, whilst it is also offered to the holders of other degrees in the Western Mediterranean countries, part of the Balkans (Serbia, Montenegro and Macedonia) as well as Bulgaria, Poland, and the Czech and Slovak republics. It should be noted that training is offered only to Medical Doctors in the Netherlands but not in Belgium or Luxembourg, and, among the former USSR countries, it is offered only to Medical Doctors in Estonia, Russia, and the Ukraine (Figure 5).

A final examination before registration is required in most countries (Figure 6); notable exceptions can be found in localised areas such as the Benelux and the Scandinavian countries (apart from Finland), the Czech and Slovak republics, and a few additional individual cases (Cyprus, Ireland, Latvia, Moldavia and Spain).
Not always is a Clinical Microbiologist in charge of the laboratory, but the distribution of this feature throughout Europe does not appear to be related to any particular geographical regularity, nor would it appear to be related to recognition of CM as an independent specialty or to the different degree holders to whom CM training is offered (Figure 7).

Similarly, the practice of organising joint meetings with the National Societies of Infectious Diseases does not follow any particular geographical pattern, as it applies to the whole of Europe apart from Ireland and a number of Mediterranean and Eastern European countries (Figure 8).

The implications of these results will be discussed in depth in a forthcoming position paper. They will form a basis for the ESCMID strategy for strengthening the position of Clinical Microbiology in Europe. While ESCMID recognises that most professional issues come under national jurisdiction, we wish to actively support the wider recognition of CM as a medical specialty, foster harmonised training programmes and quality assurance across Europe, enhance the professional profile of Clinical Microbiologists and promote closer relations between the disciplines of Clinical Microbiology and Infectious Diseases.

Giuseppe Cornaglia, MD, PhD
ESCMID Officer for Professional Affairs, Clinical Microbiology
Acknowledgements

I would like to extend my personal thanks, also on behalf of ESCMID, to all the colleagues and friends who agreed to fill in the questionnaire and who assisted me with such patience and commitment throughout the lengthy data review process:

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Surveillance in Europe: a Need for a European Centre?

In this era of globalisation, witness to a sustained increase in worldwide travel and trade and continuous environmental changes, international outbreaks of infectious diseases are increasingly common and may reach disastrous proportions if left unchecked. Last year, the bioterrorist attacks by mail dissemination of anthrax spores to decision makers in the USA spectacularly illustrated the openness and vulnerability of modern societies to rapid dissemination of infectious agents by unforeseen routes of transmission. The resurgence of major diseases such as tuberculosis and the growing threat of antimicrobial resistance are also cause for concern. There is a widely recognised need for strengthening infectious diseases surveillance and control programmes at both national and international levels to meet this challenge. Although rich in scientific expertise and with a long history of experience in infectious diseases control, Europe has been lagging behind the USA in part due to its complex political structure but also due to lesser investment in the public health infrastructure and biomedical research in this area. The decisions at the EU level to establish a European Centre for Disease Control are now raising hopes that we are starting to address the problem. In a decision last September, the European Parliament and Council have called for a visible and transparent Community health policy with consultation and participation of all stakeholders (1,2). It also stated that the Commission should ensure effectiveness of the programme by means of a strengthened central resource. On November 6, a workshop was organised at the European Parliament by MEP Prof. Antonios Trakatellis, rapporteur of the Community programme on public health 2003-08, in cooperation with the European Vaccines Manufacturers (EVM) – European Federation of Pharmaceutical Industry Associations (EFPIA) to: review the effectiveness of national and EU programmes on communicable diseases surveillance and debate on how best to set up the future European Centre on Communicable Diseases (ECCD) that has been announced by Commissioner Byrne and should be operational by 2005 (3). The epidemiologists who run disease-specific surveillance networks and direct national centres for disease control, recognised the significant progress made by networks such as EISS (Influenza), EuroTB and EWGLI (Legionellosis). These networks have fostered harmonisation of methods and case definitions as well as provided timely information to guide preventive measures. Likewise, the European Programme for Intervention Epidemiology Training (EPIET) was praised for its success in disseminating this scarce expertise across Europe. However, there was also consensus that the Community Network on Communicable Disease Surveillance and Control established in 1998 has largely failed to meet its ambitious objectives of integration of national programmes to protect the EU citizens against the threats of infectious diseases. Various causes for this gap were identified, including: the insecure, and insufficient funding of EU surveillance networks, their fragmented disease focus; variation in laboratory methods, epidemiological definitions and indicators used in Member States; uneven knowledge about the incidence of vaccine-preventable diseases and lack of harmonisation of health policies such as immunisation programmes. Setting up the ECCD was unanimously considered necessary to better coordinate and consolidate existing surveillance programmes and to establish a rapid response capacity to mobilise resources needed to tackle an international health crisis. There were however, mixed views on the size and range of functions for the centre. Many participants feared that a large central organisation might dwarf the national centres and drain an excessive amount of trained personnel from these centres; others felt that a critical mass should be achieved with high-level scientists being recruited to provide a credible leadership.

Fernand Sauer (Director for Public Health, DG SanCo) described the draft plan in preparation by commissioner Byrne for a "small but strong" coordination centre, "able to pool and co-ordinate the best national expertise". The ECCD should act as coordinator of surveillance and alert and respond to international outbreaks. It should be staffed with epidemiologists but not host laboratories, at least initially. Integration of epidemiology and microbiology, including programmes of applied research and technological development, in areas such as molecular diagnostics and microbial epidemiology, was stressed as one of the major components of the successful experience of the US CDC by James Hughes, Director of the National Centre for Infectious Diseases. The panel of speakers, however, included no microbiologist and the current plans did not mention provision to involve them actively in the future European Centre. Marc Struelens, as an ESCMID delegate,

REFERENCES
expressed the view that clinical and public health microbiologists, who are key contributors to surveillance networks, would enthusiastically support the development of the ECCD and could provide valuable input on ways to improve the dialogue between laboratory scientists and public health specialists. The ECCD project is a clear example of European-added value and should mobilise healthcare professionals who are partners in the control of infectious diseases. ESCMID has offered to play the role of broker between the medical microbiology and infectious diseases community and the EU institutions to incorporate suggestions from the field into the optimal design of the ECCD. A round table will be organised at the next ECCMID on this topic. You are invited, as member of the society, to contribute to the public debate on this exciting project, by publishing your opinion as correspondence in the ESCMID News.

Marc Struelens, President-Elect

The ESCMID Interview

Professor Fernando Baquero – a Man Who Plays Many Parts

Fernando Baquero is Professor of Clinical Microbiology at Ramón y Cajal Hospital, Madrid, Spain and will be well known to many ESCMID members. What may be less well known are the many facets of this interesting and talented man. I interviewed Professor Baquero and discovered how extraordinarily wide ranging were his interests. They include the discovery of microcins and the genetic basis for their production in Enterobacteriaceae, a study of listeriosis, and involvement with a post-genomic Listeria programme, REALIS, macrolide-lincosamide resistance in Peptostreptococcus and Bacteroides species, hypermutable strains of Streptococcus pneumoniae and Pseudomonas aeruginosa, the presence of β-lactamases in anaerobic cocci, the effects of low levels of antimicrobials and the possible role of probiotics in infectious diseases. At a cursory glance these topics seem to be very diverse and even disparate, but he pointed out to me that they were in fact almost all linked by a common theme. The terms he used – biodiversity, ecology and adaptation, illustrate well how modern his approach is. Ecology and ecological impact are terms that have been used only very recently by many medical microbiologists and even then are often restricted to mean the ecology of our flora. In contrast Fernando Baquero links ecology with biodiversity and adaptation to the environment and uses these terms in their wider sense to include the environment around us as well as within us.

Fernando Baquero grew up in a Spain where science had been greatly damaged by the Civil War in the 1930s and he has played a major role in helping to advance the status and quality of clinical microbiology in his country. After gaining his MD in Madrid in 1965, he worked in both Germany at the Max Planck Institute and Spain in infectious diseases and microbiology, being awarded his PhD in 1973. In 1970 he founded the Section of Clinical Microbiology at the Children’s Hospital in Madrid, one of the first independent clinical microbiology units in Spain. He is also the founder and a former director of the Department of Microbiology at Ramón y Cajal Hospital, Madrid, where he still works. In 2002 Fernando Baquero received the Aventis Pharmaceuticals Award from the ASM. This award was presented at the 42nd ICAAC in San Diego, September 2002, where he gave the Award lecture entitled ‘Antimicrobial Evolution under the Influence of Human Chemotherapy’. He has been a speaker at many major conferences concerned with resistance to antimicrobials and the evolution of resistance, such as the Copenhagen Conference on ‘The Microbial Threat’ in 1998 where he was quoted as saying that ‘antibiotics should only be used in acute cases; the body’s immune system should be allowed to cope with disease on its own as much as possible’. Linked with this emphasis on controlling the alarming growth worldwide in resistance to a wide range of antimicrobial agents Fernando Baquero was a founder member of the Alliance for the Prudent Use of Antibiotics (APUA). As
part of his involvement in this organisation, which is dedicated to educating people to use antimicrobials with more care, he has been pressing the Spanish authorities to reduce the use of antimicrobials over the counter (OTC). In Spain OTC use is widespread and is seen by many as a major contributing factor to the high level of resistance seen in that country. He said that this campaign has had some success and there is now a special advisory board of the Ministry of Health concerned with this important topic.

An early area of work for Fernando Baquero, linked with the natural control of infection, resulted in the discovery of the microcins – natural agents produced by *Enterobacteriaceae*. Microcins are small peptides (molecular weight (MW) approximately 5,000) in contrast to colicins, which are high MW compounds (>20,000) and cannot survive passage through the gut. It is believed that microcins may mediate the displacement of various species in the gut in neonates. There was some work in the early part of the last century to use microcin-producing strains to treat diarrhoea. An alternative approach could be the use of probiotics. He said that this is a fascinating area but as yet the science behind it is still sadly lacking. We need to understand the microbial flora of the human gut and the complexities of the communities in which our flora exist. There are probably at least 500 different species in our gut, but our knowledge of the majority of these species is fragmentary or even non-existent. It is highly likely that we may have destroyed many species without ever discovering them since there can be few people in the western world who have not come into contact with antimicrobial agents. We know nothing about the subtleties of bacterial interaction.

I asked him how his work on *Listeria* fitted into the general theme of ecology/adaptation and he explained that *Listeria* infections were more common in very young children than in adults. This he believes is because the gut flora has not yet developed fully and is thus more easily replaced by a pathogenic species. His group was the first to work on the genetics of *Listeria* and they isolated the first pathogenicity factor – a haemolysin, which they then cloned and expressed. They showed that elimination of the haemolysin gene reduced pathogenicity. He is still interested in this area and is a contributor to the REALIS post genomic project.

Another area of work of great interest to Fernando Baquero is the mutation rate of bacteria under various conditions. The impact of low levels of antimicrobials on individual organisms or communities are of major concern to him as he believes strongly that this can be regarded as a stepping stone to the development of resistance. Low levels of antimicrobials can have very deleterious effects and allow the organism to adapt, i.e. to become resistant or tolerant. He emphasised that this is applicable to treatment of animals/humans and to the general environment. He has been involved with other studies on the mutation rates of bacteria, including studies on hypermutable strains of *Streptococcus pneumoniae* and *Pseudomonas aeruginosa*. The mutation rate of bacteria is normally low but some strains have been shown to produce mutations at greatly increased rates, from 1000 to 10,000 times that of the normal population. Some *Pseudomonas aeruginosa* strains from patients with cystic fibrosis have been shown to be hypermutable. These strains are more adaptable to external conditions and studying them can be of value in predicting in days what may happen in years to other bacteria. He also said that they could offer an insight into understanding trends of evolution of resistance. Much of this work has been summarised in the review published in 2000 [1].

Typical of Fernando Baquero’s enquiring mind and his ability to be at the forefront in his field, he has, as recently as October 2002, coined a new word ‘allodemics’ [2]. This stems from his studies over a period of years on the frequencies of patients infected with ESBL (extended spectrum β-lactamases)-producing *Enterobacteriaceae*. Genetic analysis of the strains revealed a surprising diversity of clones rather than the spread of a single resistant clone. He suggests that since epidemic and endemic come from the Greek *epi* – inside, *endo* – among and *demos* – people, respectively, that this situation be referred to as an alldemic event (*allo* – different, other).

Communication between the clinical or medical microbiologist and the environmental microbiologist is now essential and he believes that microbiologists of the future need to take more care of the environment especially in the hospital. When I asked him what areas of his work had given him most pleasure, he highlighted his work on the concentration-dependent selection of low-level antibiotic-resistant variants of *Escherichia coli* as one of which he felt particularly proud, quoting a paper published in *Antimicrobial Agents and Chemotherapy* in 2000 [3].

‘Approaching familiar facts from a new perspective’ [2] sums up Fernando Baquero’s approach to much of his work and also explains much of his success. Some might refer to this as ‘lateral thinking’. He is also not afraid to be outspoken and has been critical of the approaches taken by the big pharmaceutical companies in recent years. Speaking at the 41st ICAAC in Chicago in 2001, he said that the failure of drug companies to look beyond the end of the pipeline threatens to reduce the lifespan of antimicrobial classes. Companies should take more interest in promoting knowledge of how resistance occurs and he feels that the big companies are not sufficiently interested in finding all targets of an antimicrobial or investigating resistance in a more imaginative and thorough way, using for example, hypermutable strains. When I asked him to elaborate on this he referred to bottle-necks in the system and said that the companies ‘were afraid of change’. He pointed out that clinical trials had not changed substantially for years and had not kept pace with the advances in other areas, like molecular genetics and pharmacogenetics for example. He then said that ‘the methods being used are not proportional to the knowledge,’ ‘they need to take a more ‘clonal’ approach’ and that ‘they are in the last moments of the old chemotherapeutic era – where is the new?’

I’m sure we will hear yet more challenging ideas from this prolific and talented microbiologist in the years to come.

Pamela Hunter
Medical Writer

**REFERENCES**

Immortal Music and Deadly Germs
Life Threatening Infectious Diseases of Famous Composers, Part 1

In 1682, about three and a half decades after the end of the Thirty-Year War, the plague once again raged in Germany. Originally the plague had reached Europe by ship from Asia via Genoa in 1347 carrying off about 20 million people in only 6 years during its deathly assault. In Lubeck alone about 95% of the population was killed by the plague. Afterwards the plague, the “Black Death”, reigned over Europe, always reappearing in waves frightening and terrifying the population. Today the organizational and social consequences of the plague are difficult to imagine. Supplies collapsed due to the death of bakers, butchers, and merchants; inheritances became effective but could not be carried out because of the heirs’ death, above that, the notaries had died. The dead remained unburied since the gravediggers themselves were deceased; the municipalities broke down because of the decease in public servants. In short, the legislative, executive and judicial bodies were out of control, the communities threatened to break down! The epidemic was a first-rate political issue, and measures had to be taken to prevent a total collapse of public life. To this end, however, cause and risk factors of the plague would have needed to be elucidated. Could doctors, medical professors and university scientists do this? They, of course, had not the slightest idea what the real causes of the plague were: the plague-transmitting flea, the rats, not to mention Yersinia pestis, the bacterial agent of the plague. The public was awaiting help but received no significant answers from the universities. So at that time the crisis of the community also became a scientific and medical fiasco.

SYPHILIS
The plague came to Europe from Asia while another epidemic arrived from America: syphilis. This infectious disease overtook Europe like a storm of destruction and was probably brought in from America by Spanish seafarers around Columbus’s time after 1490. Many artists became victims of syphilis; poets, painters, philosophers, all of them suffering terribly (Table 1). Many composers became infected with syphilis, as well. Most of them lived through the horrible last stages of syphilis with progressive paralysis, and famous men like Friedrich Smetana, Robert Schumann and Hugo Wolf lived out the end of their lives in mental derangement (Table 2).

Table 1
Famous Persons Suffering from Syphilis (Except Composers)

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Birth</th>
<th>Date of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ernst Theodor A. Hoffmann</td>
<td>24.01.1776</td>
<td>25.06.1822</td>
</tr>
<tr>
<td>(Writer, Poet, Composer)</td>
<td></td>
<td>Königsberg</td>
</tr>
<tr>
<td>Heinrich Heine</td>
<td>13.12.1797</td>
<td>17.02.1856</td>
</tr>
<tr>
<td>(Poet)</td>
<td></td>
<td>Düsseldorf</td>
</tr>
<tr>
<td>Ignaz P. Semmelweis</td>
<td>1.07.1818</td>
<td>13.08.1865</td>
</tr>
<tr>
<td>(Gynecologist)</td>
<td></td>
<td>Döblingen (Vienna)</td>
</tr>
<tr>
<td>Friedrich W. Nietzsche</td>
<td>15.10.1844</td>
<td>25.08.1900</td>
</tr>
<tr>
<td>(Philosopher)</td>
<td></td>
<td>Weimar</td>
</tr>
<tr>
<td>Paul Gauguin</td>
<td>7.06.1848</td>
<td>8.05.1903</td>
</tr>
<tr>
<td>(Painter)</td>
<td></td>
<td>Atuona, Hiva Oa (F)</td>
</tr>
<tr>
<td>Guy de Maupassant</td>
<td>5.08.1850</td>
<td>7.07.1893</td>
</tr>
<tr>
<td>(Novelist)</td>
<td></td>
<td>Paris</td>
</tr>
</tbody>
</table>

Table 2
Composers Suffering from Syphilis

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Birth</th>
<th>Date of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicolai Paganini</td>
<td>27.10.1782</td>
<td>27.05.1840</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Genoa</td>
</tr>
<tr>
<td>Gaetano D.M. Donizetti</td>
<td>29.01.1797</td>
<td>08.04.1848</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bergamo</td>
</tr>
<tr>
<td>Franz Schubert</td>
<td>31.01.1797</td>
<td>19.11.1828</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vienna</td>
</tr>
<tr>
<td>Mikhail J. Glinka</td>
<td>01.06.1804</td>
<td>15.02.1857</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Berlin</td>
</tr>
<tr>
<td>Robert A. Schumann</td>
<td>08.06.1810</td>
<td>29.07.1856</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zwickau</td>
</tr>
<tr>
<td>Bedrich Smetana</td>
<td>02.03.1824</td>
<td>12.05.1884</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leitomischl (Bohemia)</td>
</tr>
<tr>
<td>Alexis Emanuel Chabrier</td>
<td>18.01.1841</td>
<td>13.09.1894</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ambert (F)</td>
</tr>
<tr>
<td>Hugo Wolf</td>
<td>13.03.1860</td>
<td>22.02.1903</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Windischgraz (Austria)</td>
</tr>
<tr>
<td>Frederick Delius</td>
<td>29.01.1862</td>
<td>10.06.1934</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grez-sur-Loing (Dépt. Seine-et-Marne)</td>
</tr>
</tbody>
</table>
Franz Schubert (Fig. 1) also suffered from syphilis. Throughout his whole life Schubert was haunted by death-agons and presentiments of death, which are also reflected in his music. Recall many of his ‘Lieder’, for example “Winterreise (The Winter Journey)”, “Der Erlkönig (The Erlking)” but also the “Die Unvollendete (The Unfinished)” and of course “Der Tod und das Mädchen (Death and the Maiden)”. Schubert became infected with Treponema pallidum probably in 1818, which would have been at the age of 21. In 1821/1822 the disease clearly broke out and was recognized as syphilis. Schubert was deeply affected. At that time, he composed the ‘Lied’ “Death and the Maiden” which was arranged for a string quartet in 1824. The content and meaning of the ‘Lied’ were perhaps realized best by Marianne Stokes, whose picture “Death and the Maiden” is exhibited in the Musée d’Orsay in Paris. Death is shown here as a woman dressed in black.

In 1827 Schubert was struck by another disease. On March 25th, 1827, Beethoven died, and Schubert was one of the torchbearers at the burial not realizing that he would be the next in the Währing cemetery. In October Schubert became infected with Treponema pallidum probably in 1818, which would have been at the age of 21. In 1821/1822 the disease clearly broke out and was recognized as syphilis. Schubert was deeply affected. At that time, he composed the ‘Lied’ “Death and the Maiden” which was arranged for a string quartet in 1824. The content and meaning of the ‘Lied’ were perhaps realized best by Marianne Stokes, whose picture “Death and the Maiden” is exhibited in the Musée d’Orsay in Paris. Death is shown here as a woman dressed in black.

In 1827 Schubert was struck by another disease. On March 25th, 1827, Beethoven died, and Schubert was one of the torchbearers at the burial not realizing that he would be the next in the Währing cemetery. In October Schubert became infected through contaminated drinking water and suffered from symptoms of typhoid fever. Weakened by the chronic syphilis infection, his body could hardly pose resistance against the salmonellae and on November 19th, at 3 o’clock in the afternoon death set in. Schubert presumably had no romances – not a single love-letter had been transmitted. His personality, his cordiality and also his tenderness are only reflected by his works. Schubert finally died of typhoid fever although he suffered much longer from syphilis. Peter Tchaikovsky died of cholera after having drunk water contaminated by Vibrio cholerae in 1893 – one year after the disastrous cholera epidemic in Hamburg. Entamoeba histolytica, the infectious agent of amoebic diarrhea, led to the early death of the genius composer of “Norma” – Vincenzo Bellini.

**TUBERCULOSIS**

In the course of industrialization in the 19th century another infectious disease developed into a real public epidemic – tuberculosis. Thus, in 1876, 12% of all deaths in Germany were due to tuberculosis. In the period before this dramatic development, however, tuberculosis was regarded in a completely different way than plague, cholera or syphilis. It was considered a romantic disease, which above all puts an end to young life. Geniuses, artists and bohemians were the ones hit by consumption and those who suffered from it felt chosen, elected to be creative, to be exceptional (Table 3). John Middleton Murry, the husband of the author Katherine Mansfield, describes his wife’s death by tuberculosis as follows:

“I never saw someone as beautiful as her on that day and will never again see someone being so beautiful; it seemed as if the unique perfection which had always been typical for her had completely taken possession of her. To use her own words: the last grain of deposition, the last traces of worldly humiliation had left forever. However, she lost her life to save it.”

Philip Sandborn also attributes a special effect on the creative imagination to this disease. The mild fever gives wings to the thoughts and provides the imagination with visionary ideas. An increased hunger for life, which in reality cannot be appeased due to the ill patient’s weakness, is instead satisfied by the world of imagination, with a preference for the erotic.

<table>
<thead>
<tr>
<th>Famous Persons Suffering from Tuberculosis (Except Composers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aubrey Beardsley</td>
</tr>
<tr>
<td>Amadeus Modigliani</td>
</tr>
<tr>
<td>Albert Camus</td>
</tr>
<tr>
<td>Katherine Mansfield</td>
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<tr>
<td>Karl Marx</td>
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<tr>
<td>D.H. Lawrence</td>
</tr>
<tr>
<td>Franz Kafka</td>
</tr>
<tr>
<td>Molière</td>
</tr>
<tr>
<td>George Orwell</td>
</tr>
<tr>
<td>J. Friedrich v. Schiller</td>
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<tr>
<td>Paul Ehrlich</td>
</tr>
<tr>
<td>Paul Langerhans</td>
</tr>
<tr>
<td>Heinrich Schliemann</td>
</tr>
<tr>
<td>Vivien Leigh</td>
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</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Famous Persons Suffering from Tuberculosis (Except Composers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aubrey Beardsley</td>
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<td>Amadeus Modigliani</td>
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<tr>
<td>Heinrich Schliemann</td>
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<tr>
<td>Vivien Leigh</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Composers Suffering from Fatal Tuberculosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hans Leo Hassler * 26.10.1564 Nürnberg</td>
</tr>
<tr>
<td>† 08.06.1612 Frankfurt a.M.</td>
</tr>
<tr>
<td>Henry Purcell * 1659 London</td>
</tr>
<tr>
<td>† 21.11.1695 London</td>
</tr>
<tr>
<td>Carl P.E. Bach * 08.03.1714 Weimar</td>
</tr>
<tr>
<td>† 14.12.1788 Hamburg</td>
</tr>
<tr>
<td>Nicolai Paganini * 27.10.1782 Genoa</td>
</tr>
<tr>
<td>† 27.05.1840 Genoa</td>
</tr>
<tr>
<td>Carla Maria v. Weber * 18.11.1786 Eutin (D)</td>
</tr>
<tr>
<td>† 05.06.1826 London</td>
</tr>
<tr>
<td>Frédéric Chopin? * 22.02.1810 Zelasowa Wola (P)</td>
</tr>
<tr>
<td>† 17.10.1849 Paris</td>
</tr>
<tr>
<td>Karol Szymanowski * 06.10.1882 Tymoshchowka (Ukraine)</td>
</tr>
<tr>
<td>† 29.03.1937 Lausanne</td>
</tr>
</tbody>
</table>
Above all, many poets and some painters suffered from tuberculosis but also many composers contributed to the disease’s reputation as being romantic (Table 4). Each of them deserves a detailed description of his life history and his music. Best known is probably Frédéric Chopin and least of all known Hans Leo Hassler, which is why his biography is shortly illustrated (Fig. 2).

**Hassler** was born in Nuremberg. He received his musical education in Italy, and then entered the service of the Fugger family in Augsburg in 1585. There he composed his most famous work, the “Lustgarten”, a collection of songs and melodies. While accompanying Saxony’s delegate on a Court journey in order to elect Emperor Matthias in Frankfurt on the Main River, Leo Hassler died of tuberculosis. He was one of the most important German musicians of the pre-Bach era and Hassler’s works remain immortal.

**SEPSIS**

If the organism is excessively attacked by bacteria, so much that the germs multiply in the blood where they release their toxins, we talk of blood poisoning or sepsis. Sepsis is a clinical picture, which occurs in all professional fields. It is often triggered by a local injury with subsequent infection turning into bacteremia. During the centuries, many great persons died due to sepsis (Table 5). Lucrece Borgia, for example, died after the birth of a child; Ignaz Semmelweis, the father of aseptic wound care, died ironically after a finger injury; Eduard Manet died following a leg amputation; Albert Neisser, the discoverer of the “gonococcus”, died after the removal of a kidney stone; Heinrich Hertz, discoverer of the radio waves, died due to a dental abscess; Rainer Maria Rilke died after a prick with a rose’s thorn and finally the author Willa Cather died as a result of a hatpin prick.

Many famous composers died of bacterial sepsis. In Table 6 seven important ones are listed. The story of the death of the composer and conductor Lully is quickly told. In 1687 Lully hurt his foot with a heavy baton while stamping time so enthusiastically during the performance of the “Te Deum” on the occasion of the recovery of the French King Louis XIV. Within a short period, a purulent abscess developed, the inflammation progressed fast and led to gangrene, finally to septic intoxication and to the master’s death in 1687.

**GIOACCHINO ROSSINI**

More than 100 years after Lully’s death, one of the greatest opera composers ever was born not far from Florence: Gioacchino Rossini (Fig. 3). Today Rossini is known to us above all for his opera, the “Barber of Seville”. The life history of this great musician was marked by a chronic gonorrhea, which he had caught at the age of 15. This creeping illness tormented him up to his last days and determined the life of this ingenious, sensitive and sensible artist. He composed the “Barber of Seville” at the age of 25. At 39 years of age he brought his compositional activity to an end – his creative

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**Table 5**

**Famous Victims of Fatal Septicaemia**

(Except Composers)

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Birth</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucrezia Borgia</td>
<td>1804.04.1480</td>
<td>Rome</td>
</tr>
<tr>
<td>(Renaissance Princess)</td>
<td></td>
<td>Ferrara</td>
</tr>
<tr>
<td>Igaz Semmelweis</td>
<td>1818.07.01</td>
<td>Ofen (Buda, Budapest)</td>
</tr>
<tr>
<td>(Gynecologist)</td>
<td></td>
<td>Döbling (Vienna)</td>
</tr>
<tr>
<td>Edouard Manet</td>
<td>1832.01.23</td>
<td>Paris</td>
</tr>
<tr>
<td>(Painter)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albert Neisser</td>
<td>1855.01.22</td>
<td>Schweidnitz</td>
</tr>
<tr>
<td>(Dermatologist)</td>
<td></td>
<td>Wroclaw (Breslau)</td>
</tr>
<tr>
<td>Heinrich Hertz</td>
<td>1857.02.22</td>
<td>Hamburg</td>
</tr>
<tr>
<td>(Physician)</td>
<td></td>
<td>Bonn</td>
</tr>
<tr>
<td>Rainer Maria Rilke</td>
<td>1875.12.04</td>
<td>Prague</td>
</tr>
<tr>
<td>(Poet)</td>
<td></td>
<td>Val-Mont (Montreux)</td>
</tr>
<tr>
<td>Willa Cather</td>
<td>1876.12.07</td>
<td>Winchester (Va)</td>
</tr>
<tr>
<td>(Writer)</td>
<td></td>
<td>New York (NY)</td>
</tr>
</tbody>
</table>

Figure 2. Hans Leo Hassler

Figure 3. Gioacchino Rossini
genius was exhausted. Rossini resettled to Paris where he was most appreciated and adored. At the age of 70 he composed a senior work, the “Féchés des vieilles”, his “Sins of old age”. In the winter of 1867/68 Rossini suffered from asthma and in October 1867 a colon abscess was diagnosed. In trying to surgically remove it, such a vast surgical manipulation was out of the question. The surgical wound, however, became the starting-point for the desired “Prix de Rome (Prize of Belgium)” in 1868, his “Sins of old age”. Seven years later the artistic community of Paris was overtaken with elemental force by an opera, the music and story of which represented a complete break from the traditional opera or “opéra comique (comic opera)”. It is the opera “Carmen” which up to now has been the most frequently performed opera in the world if not the most frequently played piece of music of all time. The ingenious composer of this opera was George Bizet (Fig. 4).

In June he complained of rheumatism, which, retrospectively, we can see was closely connected with his fever and throat inflammation. He was awfully tormented by feverish relapses of his sore throat (angines extrêmement compliquées); nevertheless he worked to the point of exhaustion on his compositions, i.e. 15–16 hours a day, above all to earn money. At this time he wrote some of his great works such as “La jolie fille de Perth”, “Les pêcheurs de perles” and “Djamileh”. Then, suddenly the French-Prussian war of 1870/71 interrupted his work. Times were unsteady in Paris since Napoléon III, Emperor of France, was disputed due to his military failures in Mexico, and the French government in general seemed to be weakened. At this time another European country, however, gained power: Prussia with its capital, Berlin. By a clever dodge of the Prussian chancellor Otto von Bismarck, Napoléon III was forced to declare war on Prussia on July 19th, 1870. After the French army had utterly been beaten near Sedan on September 2nd, and the Prussian king William had been crowned German Emperor in Versailles on June 18th, 1871, Parisian socialists and communists revolted against the bourgeoisie, whom they held responsible for the defeat. This movement led to the famous Paris Commune and ended up in a terrible civil war-like situation with many casualties. George Bizet volunteered as a national guardsman in Paris. Being even more pacifist than nationalist, he wrote to a friend: “Today the rescue of our country is at stake! But afterwards? And our poor philosophers and our dream of universal peace of a cosmopolitan brotherhood, a humane society? … And instead of that: never-ending tears, blood, mutilated flesh, innumerable crimes. Dear friend, I cannot tell you into what kind of depression I am tumbling due to all this. I am French, that is what I remember, but how could I forget that I am a human being”. During the Commune’s reign of terror he fled to Bordeaux with his wife Geneviève Halevey whom he had married on July 3rd, 1869. After his return to Paris, he composed 12 pieces for four hands, the “Jeux d’enfants (Children’s Games)”. The beauty, ease, cheerfulness, musical idiom and originality of these works are unique. He probably wrote the “Jeux d’enfants” in joyful anticipation of his son Jacques who was to be born on July 10th, 1872.

## Table 6

| Composers Suffering from Fatal Bacterial Sepsis |
|-----------------------------|-----------------------------|
| Jean Baptiste Lully         | * 28.11.1832 Florence       |
|                            | † 22.03.1867 Paris          |
| Anton Franz J. Eberl        | * 13.06.1765 Vienna         |
|                            | † 11.03.1807 Vienna         |
| Gioacchino Rossini          | * 29.02.1792 Pesaro (I)     |
|                            | † 13.11.1868 Paris          |
| Georges Bizet               | * 25.10.1838 Paris          |
|                            | † 03.06.1875 Bougival (Paris) |
| Gustav Mahler              | * 07.07.1860 Kalischt (Kalištce) |
|                            | † 18.05.1911 Vienna         |
| Aleksander Skrjabin        | * 06.01.1872 Moscow          |
|                            | † 27.04.1915 Moscow          |
| Ottorino Respighi          | * 09.07.1879 Bologna         |
|                            | † 18.04.1936 Rome            |
| Alban Berg                 | * 09.02.1885 Vienna          |
|                            | † 24.12.1935 Vienna          |

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**GEORGES BIZET**

Georges Bizet was born in Paris on October 25th, 1838. His musical talent was recognized early and after admission to the Paris Conservatory he won the desired “Prix de Rome (Prize of Rome)”. His journey to Rome already marked the beginning of Bizet’s history as a patient, who three months after his arrival in Rome, fell ill with angina accompanied by a high temperature. Times were unsteady in Paris since Napoléon III, Emperor of France, was disputed due to his military failures in Mexico, and the French government in general seemed to be weakened. At this time another European country, however, gained power: Prussia with its capital, Berlin. By a clever dodge of the Prussian chancellor Otto von Bismarck, Napoléon III was forced to declare war on Prussia on July 19th, 1870. After the French army had utterly been beaten near Sedan on September 2nd, and the Prussian king William had been crowned German Emperor in Versailles on June 18th, 1871, Parisian socialists and communists revolted against the bourgeoisie, whom they held responsible for the defeat. This movement led to the famous Paris Commune and ended up in a terrible civil war-like situation with many casualties. George Bizet volunteered as a national guardsman in Paris. Being even more pacifist than nationalist, he wrote to a friend: “Today the rescue of our country is at stake! But afterwards? And our poor philosophers and our dream of universal peace of a cosmopolitan brotherhood, a humane society? … And instead of that: never-ending tears, blood, mutilated flesh, innumerable crimes. Dear friend, I cannot tell you into what kind of depression I am tumbling due to all this. I am French, that is what I remember, but how could I forget that I am a human being”. During the Commune’s reign of terror he fled to Bordeaux with his wife Geneviève Halevey whom he had married on July 3rd, 1869. After his return to Paris, he composed 12 pieces for four hands, the “Jeux d’enfants (Children’s Games)”. The beauty, ease, cheerfulness, musical idiom and originality of these works are unique. He probably wrote the “Jeux d’enfants” in joyful anticipation of his son Jacques who was to be born on July 10th, 1872.
Global Climatic Change is Fuelling Infectious Disease in Europe and Beyond

It can no longer be denied that the climate is warming up. In Europe the mean temperature rose around 0.8°C on average in the last 100 years. In the coming 100 years global climatic change will accelerate and – depending upon the estimate – further increase by 1.4 to 5.8°C. The past changes in temperature were not evenly distributed, but affected above all the winter half-year and the northern part of Europe. If this tendency continues, the probability is high that the high wintering mortality of insects, including that for disease vectors, will clearly decrease. The effect this will have on the epidemiology of insect-transferring diseases in Europe is obvious. This concerns above all leishmaniasis, tick-borne encephalitis, lyme disease and probably also West Nile fever. It is also conceivable that malaria will return to those areas, in which it was native, in some cases up until the mid 20th century, before it was eradicated.

Not only diseases that are transferred by insects benefit from global warming. Accompanying climatic warming are meteorological phenomena, too much precipitation on the one hand, and extremely long dry periods and droughts on the other hand. This will affect animal reservoirs such as rodent populations, which determine the spatial distribution of zoonoses. Hanta viral infections, tularaemia, leptospirosis and plague belong to this group. In addition, diseases, which are spread by water contact, such as cholera and schistosomiasis, could spread from their original peri-equatorial occurrence areas further to the north and the south. Finally, social factors will also contribute to a changing infectious disease epidemiology, since within a calendar year the population’s leisure activities will probably be affected by longer warm periods. Additionally, it is conceivable that as a consequence of drought and famine, for example in Africa, ever more persons from the tropics will emigrate to Europe carrying pathogens with them.

Excellent examples of the temperature-dependence of a parasitic disease are cutaneous and visceral leishmaniasis (Figure 1). Leishmania infantum is endemic to the Mediterranean region, and its geographical distribution is limited by the 5–10°C January – and the 20–30°C July isotherms. These spatial limits correspond to the distribution area of the main vectors of Leishmania infantum, i.e. Phlebotomus perniciosus and P. perfiliewi. Investigations in Italy indicated that P. perniciosus is predominantly found in areas with warm winters and mild summers and P. perfiliewi thrives in regions with low winter and high summer temperatures. These spatial limits correspond to the distribution area of the main vectors of Leishmania infantum, i.e. Phlebotomus perniciosus and P. perfiliewi. Investigations in Italy indicated that P. perniciosus is predominantly found in areas with warm winters and mild summers and P. perfiliewi thrives in regions with low winter and high summer temperatures. According to a mathematical model developed by the Instituto Superiore di Sanità in Rome, climatic warming will have an influence on the spatial distribution and the population biology of both vectors. For P. perfiliewi the population is forecasted to most likely advance into all of Italy and to spread up to the 49° northern latitude. P. perniciosus will lose importance in Italy, but will possibly establish itself in Switzerland and Austria. The model predicts a dramatic rise in the inci-

Figure 1. Three Leishmania amastigotes, each with a clearly visible nucleus and kinetoplast. Source: CDC
P. vivax benefits even from the parasitemia of other malaria species. The asexual generation in the human host starts when the mosquito takes only 16 days (this time period coincides approximately with the average life span of Anopheles in a warm summer). Should, however, the temperature rise to 28°C, then the parasites can grow up into an infectious new generation in just one week. In addition, the reproduction time of the Anopheles mosquito is strongly temperature-dependent. At a temperature of 20°C Anopheles need nearly three weeks to develop from egg to blood-sucking insect, at a temperature of 31°C only seven days. With each degree increase in temperature, the ‘parasite-host-vector-parasite cycle’ rotates faster, so that P. vivax could have passed through six to eight cycles in Moscow in this summer. For tick-borne diseases, an array of factors determines the geographical distribution and the long-term fluctuation of incidence rates: meteorological characteristics such as air temperature and humidity at ground level; the ecological structure of the habitat; a sufficiently large population of warm-blooded host animals; as well as the health-care system of the respective country. A warmer climate not only extends the tick’s possible reproduction period (as poikilothermic organisms the different tick species require certain minimum temperatures for development and host finding). The climate also influences the activities of humans, particularly in spring and autumn. If, early in the year, it is already unusually warm or if warm days continue into the late autumn, leisure activities such as camping and hiking are prolonged, which may lengthen the exposure period to ticks. The Scandinavian population’s differing behaviour as a result of the climactic changes has been implicated in the increase in tick-borne encephalitis in Scandinavia: in the last ten years the number of cases has been increasing in Sweden and Finland, and the first occurrence of the infection in Norway was in 1997. According to Sarah Randolph from the Zoological Institute at the University of Oxford, summers were increasingly hot and dry in the Balkans in recent years. This produced an opposite effect: the adult ticks, which are very sensitive to dryness, died in masses. In conjunction, the frequency of the tick-borne encephalitis decreased saliently. On the contrary, in Eastern Europe the reasons for the quasi-epidemic rise in the tick-borne encephalitis since 1992 are of a political-economic nature. As a consequence of the collapse of the socialist system, numerous individuals became self-supporting, persons who had in the past been fed by the state or large-scale enterprises. Previously fallow-lying land was agriculturally put into use, which in turn made clearing necessary. In addition, the collection of berries, mushrooms and firewood led to an increased exposure to ticks. Accordingly, the incidence of tick-borne encephalitis rose dramatically. Regarding malaria the picture is not so clear. On the one hand – as already described – the reproduction cycles of vector and parasite are strongly temperature-dependent, on the other hand, in central Europe there are relatively few Anopheles species, which could be considered efficient vectors for P. vivax or P. falciparum, the parasites causing the two most common types of malaria. According to investigations by Steve W. Lindsay at the University of Durham in England, a renewed local transmission of P. vivax in Western Europe is probable with increasing climatic warming, however these events are expected to be rather sporadic. Roberto Romi and his colleagues at the Instituto Superiore di Sanità come to a similar conclusion. They consider a resurgence of malaria in all of Italy very improbable, but admit that sporadically autochthonous transmission may occur. The fact that the Italian population reacts very sensitively to this issue is understandable, since central Italy was a highly endemic malaria area well into the 1930’s. In the context of climatic warming, even exotics like the sand flea (Tunga penetrans), could establish themselves in Europe. Two years ago the first case of...
of autochthonous tungiasis was reported in a lifeguard who was working south of Rome on the Tyrrhean beach. Illegal African immigrants, who had come to Italy as boat refugees, probably brought in the ectoparasite. Analysis of morbidity changes as a result of the El Niño Southern Oscillation (ENSO) provides an opportunity to estimate the effects of climatic changes on the epidemiology of tropical and subtropical infections.

When the southeast trade wind in the central Pacific weakens due to El Niño, then an enormous climatic engine starts on the wrong course. Normally the Pacific surface waters flow with the trade winds in a direction that is, due to the earth’s rotation, exactly westwards. Off the coast of South America the surface water is constantly replaced by cold, nutrient-rich deep water - a process, which is responsible for the well-known wealth of fish in these waters. However if the trade wind’s thrust is missing, then the water masses move in a reverse direction: the warm surface water swashes back toward South America. Consequently, cold, deep water cannot flow to the surface. Off the coasts of Peru, Ecuador and Colombia the water temperature rises by up to 8°C. Tremendous amounts of fish begin to die. Since this phenomenon was usually observed around Christmas, it got the name ‘El Niño’, the Spanish name for the Christ child.

The meteorological consequences of El Niño are diverse: flooding in China, flowering deserts in Arizona, extreme drought in Australia and northeast Brazil, bush fires in the Amazon low country and on Borneo, tornados in the eastern US. Economists, too, have identified the consequences of ENSO for quite awhile: low water levels in the Panama Canal increase shipping costs, equally burdening imports and exports. Poor expected harvests cause the basic food prices at the produce exchanges to rise quickly. However, in the meantime the effects of ENSO on infections have been well examined, too. The following are two examples.

Vibrio Cholerae’s aquatic habitat is in shellfish and zooplankton that live in tropical waters. It can be transported thousands of kilometres with algal mats. Each warming up of the water and each directional change of tropical seawater currents increase the risk of carrying infectious Vibrios to far-away coasts. That is exactly what happened in January 1991, in Peru, when a cholera epidemic was brought in through seafood. Within three months more than 100,000 persons contracted the life-threatening enteritis. New research indicates that cholera propagation is promoted by ENSO. The flooding that accompanies ENSO leads to the contamination of drinking water, for example from ruptured pipes or wells by waste water containing faecal bacteria. Within the shortest time cholera epidemics can break out with thousands of cases. This happened following hurricane Mitch, which devastated Honduras in October 1998. An analysis of the cyclic fluctuations of cholera incidence with regard to climatological data, for example from Bangladesh, showed that the positive correlation between cholera incidence and meteorological abnormalities has become stronger in the last decades.

A similar example was also demonstrated for malaria. Menno J. Bouma and his colleagues from the London School of Hygiene and Tropical Medicine analysed climatic data from 1864 to the present and showed that historical malaria epidemics on the Indian subcontinent can be explained by ENSO phenomena. The surface water temperature of the Pacific, a measure of the strength of ENSO, was a statistically significant predictor of malaria epidemics in Indian Punjab and Sri Lanka. Every time an ENSO was present, the risk of a malaria epidemic rose in Sri Lanka by a factor of about 3.6, in Punjab by a factor of about 4.5. Interestingly enough, however, another temporal pattern became apparent for both countries. In the more northernly Punjab, the malaria frequency rose 12 months after El Niño began, hence when the monsoon rains were strongest. In Sri Lanka, on the other hand, the malaria epidemics occurred in the El Niño year itself. This is probably related to the fact that in the year prior to El Niño the northeast trade wind is frequently absent, so the island’s inland water levels are relatively low. This causes a reduction in the Anopheles mosquito population and thereby lowers the malaria incidence. Twelve months later, if the monsoon is then unusually strong, the vectors and the parasites spread very quickly.

While a general climatic warming changes the spatial distribution of infectious diseases, extreme weather conditions, particularly as a consequence of El Niño, determine the time and the intensity of outbreaks, says Paul Epstein of the Center for Health and the Global Environment of the Harvard Medical School in Boston. Exactly how the climate will develop in Europe in the coming decades, which regions will be affected, by which meteorological changes, and how much, cannot presently be foreseen. However, it is evident that climatic warming will influence individual and public health in many different ways.

Hermann Feldmeier
News in Brief

Infectious Diseases and Outbreaks

MAJOR OUTBREAK OF LISTERIOSIS IN USA
A major outbreak of listeriosis involving at least 46 confirmed cases was reported by the Centers for Disease Control and Prevention (CDC) in Atlanta. The infection has been linked to turkey slices and involves 8 states in the Northeast. Seven people have died and there have been three miscarriages or stillbirths. The source was traced to a poultry processing plant in Pennsylvania, which has recalled fresh and frozen chicken and turkey products and has suspended operation.

MMWR 2002; 51(42): 950

PROBIOTICS AND GASTROINTESTINAL DISORDERS
There have been many claims for the beneficial effects of probiotics on disorders of the lower gut, but good scientific evidence is sparse. An EU-funded project (PROGID) has been set up to assess the use of probiotic bacteria to treat inflammatory bowel disease and/or Crohn’s disease. The double-blind, randomised study will be led by Prof. Shanahan of the National University of Ireland, Cork and will recruit patients in Finland, Ireland and Spain. Two strains of bacteria will be used, Lactobacillus salivarius UCC118 and Bifidobacterium infantis UCC35624.

www.ucc.ie/hfbc/trials

A meta-analysis of the role of probiotics in treating antibiotic-associated diarrhoea, published in the BMJ, produced a lively correspondence, some critical of the original paper.

BMJ 2002; 325: 901

SALMONELLA ENTERITIDIS OUTBREAK IN UK LINKED TO SPANISH EGG IMPORTS
Outbreaks of Salmonella Enteritidis in the UK have involved at least 350 people and there have been two deaths. An unusual feature was the high number of phage type 14b, which is normally rare in the UK. Many of the infections have been linked with the consumption of unpasteurised eggs or egg products. Some eggs imported from Spain have been found to be infected with this phage type but not all the infections are linked with imported eggs. The Food Standards Agency has reiterated their advice on the proper handling of eggs, whatever their source.

Food Standards Agency Press Release 29 October 2002

Viral Infections and Vaccines

SEVERE INFLUENZA OUTBREAK IN MADAGASCAR
The outbreak of influenza in Madagascar has now affected over 30,000 people and killed 754. The outbreak peaked in late August. Influenza A (H3N2) has been isolated from all of the 27 samples tested and confirmed by the WHO Collaborating Centre (London, UK). Many of the cases occurred in remote areas away from good medical facilities and conditions were exacerbated by civil unrest in the country between December 2001 and June 2002.

WHO Weekly Epidemiology Record 2002; 46(77): 381

HIV VACCINE
The US National Institute of Allergy and Infectious Diseases (NIAID) announced on November 13th that they had just begun clinical trials on a new vaccine for HIV. The vaccine incorporates genetic material (DNA) from HIV clades A, B and C, which together account for approximately 90% of the HIV infections worldwide. The vaccine contains modified components of the gag, pol and nef genes from clade B and a component from the env gene from clades A, B and C. It is hoped to enrol 50 healthy, HIV-negative volunteers in the first phase of the trial.

NIAID Press Release 13 November 2002

SMALLPOX VIRUS
October 26, 2002 was the 25th anniversary of the eradication of smallpox throughout the world. The last case of naturally-acquired smallpox was in

Smallpox Virus
News in Brief

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Smallpox Virus
Workers from Belgium and the Czech Republic report that cidofovir and some related compounds inhibit the replication of vaccinia virus in cell culture, raising hopes that this may lead to a potential treatment for smallpox. Cidofovir is an acyclic nucleoside analogue used for the treatment of CMV.

Snoeck et al., AAC 2002; 46: 3356

The Washington Post claimed that a US intelligence report states that five countries (France, Iraq, North Korea, Russia and the US) are believed to hold stocks of smallpox. There are only two laboratories in the world authorised to hold smallpox, these are CDC in Atlanta (US) and Koltsovo in Siberia (Russia). The report suggested that there are other hidden stocks of the virus in these countries. This was promptly followed by an announcement made by Bernard Valleron, assistant spokesman at the French State Secretariat for Health, that the French vaccine stock was of human smallpox.

Washington Post, November 2002

UK SUSPENDS USE OF UNLICENSED MUMPS VACCINE

The increasing lack of confidence in the triple MMR vaccine in the UK has led to an increase in the demand for single vaccines. A mumps vaccine (Pavivac) developed in the Czech Republic, which was being used but was not licensed in the UK has been suspended by the Committee for Safety of Medicines (CSM). The CSM said that they did not have sufficient information on the quality of the manufacture, testing and storage of the vaccine to assess its safety and efficacy. The Medicines Control Agency (MCA) will be seeking further information from the Czech Regulatory Agency and meanwhile the use of the current stocks of vaccine has been suspended.

Pharma Times November 2002

MORE EVIDENCE THAT THE USE OF MMR VACCINE IS NOT LINKED TO AUTISM

Two papers published recently add to the evidence against a link between the use of MMR vaccine and subsequent development of autism. In a population-based study from Denmark (Madsen et al) over 500,000 children were included and there was no evidence that autism was more common among those who had received the triple vaccine. A second study from Finland also involved over 500,000 children and these authors (Makela et al) also concluded that no link was evident between the use of the vaccine and autism or other neurological disorders.

Madsen et al., NEJM 2002; 347: 1477
Makela et al., Pediatrics 2002; 110: 957

USE OF MMR VACCINE IS NOT MORE EVIDENCE THAT THE USE OF MMR VACCINE IS NOT LINKED TO AUTISM

Resistance

BASIS OF RESISTANCE TO ß-LACTAMS IN MRSA

A paper in Nature describes the analysis of the penicillin-binding active site (PBP2a) in methicillin-resistant Staphylococcus aureus (MRSA). A crystal structure of the PBP is revealed and the authors describe how the distorted active site is probably a key structural feature that they believe may be responsible for the resistance to ß-lactam antibiotics.

Lim et al., Nature Struct Biol. 2002; 9: 870

A SECOND VANCOMYCIN RESISTANT S. AUREUS ISOLATED IN THE US

A second strain of MRSA with high-level resistance to vancomycin (MIC vancomycin 32 mg/l) has been isolated from a patient with a chronic foot ulcer in Pennsylvania in the US. Like the first isolate (from Michigan), this one was shown to carry the VanA gene. The isolate retained susceptibility to linezolid, quinupristin/dalfopristin, chloramphenicol, minocycline, rifampicin and co-trimoxazole.

MMWR 2002; 51: 902

TREATMENT FOR HEPATITIS C

Roche’s treatment for hepatitis C, a pegylated interferon (Pegasys), has been granted marketing authorisation by the FDA. Approval for ribavirin (Copegus), also used to treat hepatitis C, was granted in the EU in September. The two drugs given together are the most effective form of treatment of hepatitis C. Roche is still awaiting approval for the ribavirin component (Copegus) in the US. Pegasys will be in direct competition with PEG-Intron (Schering-Plough), which has been on the market for two years in the US. Pegasys only has to be given once a week and has other advantages relative to PEG-Intron.

Resistance

Detection of VCJD in Tonsil and Appendix

A group in the UK, including some from the National CJD Surveillance Unit in Edinburgh, report on the results of screening large numbers of lymphoreticular tissue from appendectomies and tonsillectomies. The aim was to determine the number of people with preclinical vCJD. Nearly 10,000 samples were analysed using immunohistochemical staining. One appendix out of the 8318 sampled showed the characteristic accumulation of prion protein.

Hilton et al., BMJ 2002; 325: 633

Anaerobic Digestion of BSE Waste in Portugal

Incineration or burying of BSE-contaminated waste is expensive but a pilot project in Portugal developed by a private company could provide a cheap and safe alternative. The organic material is ‘digested’ anaerobically in a closed receptacle.

E Alpha Galileo 18 October 2002
SUMITOMO AND FUJISAWA COLLABORATE ON CARBAPENEM RESEARCH
Two Japanese pharmaceutical companies announced that they are to collaborate on research to find new oral carbapenem antibiotics. Sumitomo is the originator of meropenem and market it in Japan and other Asian countries. Sumitomo will synthesise new candidate compounds and Fujisawa will do the advanced screening.

EU APPROVES SAQUINAVIR AND RITONAVIR COMBINATION
Approval has been granted in Europe for the marketing of two formulations of the Roche anti-HIV protease inhibitor (PI) saquinavir with the Abbot drug ritonavir (Norvir). Both Invirase (saquinavir hard gel capsules) and Fortovase (saquinavir soft gel capsules) will be given twice daily with a low dose of ritonavir. Combining saquinavir (1000 mg) with ritonavir (100 mg) enhances the absorption of saquinavir without giving an increase in adverse events. This combination has been shown to have advantages relative to Merck’s boosted PI combination Crixivan (indinavir plus ritonavir).

ROCHE AND TRIMERIS SUBMIT FUZEON FOR APPROVAL
Fuzeon (T-20), developed jointly by Roche and Trimeris, is a fusion inhibitor, which prevents the entry of HIV into the mammalian cell. This is a novel mode of action for anti-HIV drugs and Fuzeon thus has no cross-resistance with current therapies. Applications have been filed with both the FDA and the EU. The FDA announced recently that it had granted the product a 6-month priority review status; a response is therefore anticipated during the 1Q 2003.

SAFETY OF VORICONAZOLE
The new Pfizer azole antifungal, voriconazole, is used for Aspergillus infections and a recent letter to Clinical Infectious Diseases has highlighted concerns over the numbers of abnormalities in liver function occurring in patients treated with the drug. The drug has nonlinear pharmacokinetics and is extensively metabolised in the liver. Like most antifungals, it is frequently used in patients who are severely ill with a number of underlying diseases and are receiving concomitant therapy with other drugs.

The authors review recent studies and agree with a previous author that dose modification guidelines need to be developed for voriconazole.

Potoks & Brown, CID 2002; 35: 1273
Denning et al., CID 2002; 34: 563

EXTENDED RELEASE AUGMENTIN APPROVED IN THE US
GlaxoSmithKline (GSK) has gained approval in the US for its extended release version of Augmentin (Augmentin XR). The FDA rejected an earlier application and asked the company to submit more data. This will help GSK combat the threat of generic sales of Augmentin.

PROBLEMS IN THE DEVELOPMENT OF A VACCINE FOR HEPATITIS A
An attenuated strain of hepatitis A virus being used to develop a vaccine has been shown to be able to revert to full virulence. Live attenuated strains are preferred to killed viruses as they are more immunogenic. This work is taking place at the NIAID in Bethesda, US.

ASM News November 2002

ADEFOVIR APPROVED FOR HEPATITIS B
The FDA has recently approved the use of the nucleoside analogue adefovir dipivoxil (Gilead Sciences) for the treatment of hepatitis B. The drug had been proven to have a high incidence of adverse renal effects when used at high doses for the treatment of AIDS patients but when used at lower doses in patients with hepatitis B has been well tolerated and effective.

European Matters

EUROPEAN CENTRE FOR DISEASE CONTROL
At a recent workshop held at the European Parliament it was decided that there should be a central resource to coordinate communicable disease activities in the field of public health. At a workshop held in Brussels on November 6th 2002, the Director for Public Health of the EC said that ‘a small but strong European centre, able to pool and coordinate the best national expertise was the favoured option. The idea of a ‘virtual’ centre was rejected.

Eurosurveillance 2002; vol.6, issue 46

EMEA CUTS BUDGET
The licensing authority for Europe, the European Medicines Evaluation Agency (EMEA), has cut its budget dramatically in response to the fall in numbers of new drugs submitted for approval in 2002. The FDA in America has also reported a drop in new drug applications. This is seen as confirmation of the drop in R&D productivity in the pharmaceutical industry.

ITALIAN GOVERNMENT TO REDUCE SPENDING ON DRUGS
The Italian Ministry of Health have announced that they intend to reduce spending on drugs. They stated that 85 drugs were overpriced and unless the companies reduce the prices, they will not reimburse pharmacists for their cost. They have assessed cost effectiveness using defined daily dosages (DDD). The companies were given one month to comply with the cost reductions.

BMJ 2002; 325: 1058

EC TO PREVENT ILLEGAL TRADE IN DRUGS DONATED TO POOR COUNTRIES
The EC has set up a database to track consignments of discounted drugs used for HIV/AIDS, tuberculosis and malaria and destined for underdeveloped countries. The drugs will carry the distinctive blue and yellow logo, which will allow customs officials to recognise them easily and prevent their re-importation into the EU. The initiative has been welcomed by the European Federation of Pharmaceutical Industries and Associations. Oxfam also approved the scheme but would like it extended to other medicines.

Lancet 2002; 360: 1486

ANTIBIOTICS IN ANIMAL FEED
The Agriculture Commission of the EC has called for a more rapid phasing out of the use of antibiotics in animal feed. It is proposed to postpone the date of withdrawal by one year to January 2005. Similarly both the FDA in America and an advisory panel in Canada have proposed guidelines, which will curb the use of antibiotics in animals.

Press Release EU and EP November 2002
ASM News November 2002

Pamela Hunter
Medical Writer
Forthcoming events

**ESCMID events:**

- **7–8 May 2003**
  - Challenges in HIV-Infection: Advancing Patient Care, Basel, Switzerland
  - Contact: Professor Manuel Battegay
  - Email: mbattegay@unbs.ch
  - Internet: www.challenges.ch/index.html

- **10–13 May 2003**
  - 13th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Prague, Czech Republic
  - Contact: AKM Congress Service
  - Phone: +41 61 686 77 11
  - Email: info@akm.ch

- **2–5 April 2005**
  - 15th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), Copenhagen, Denmark
  - Contact: AKM Congress Service
  - Phone: +41 61 686 77 11
  - Email: info@akm.ch

- **27–30 August 2003**
  - 6th International Meeting on Microbial Epidemiological Markers, Les Diablerets, Switzerland
  - Contact: IMMEM 6
  - Phone: +41 61 686 77 11
  - Email: info@akm.ch
  - Internet: www.asmusa.org/mtgsrc/IMMEM6general.htm

- **9–11 January 2003**
  - Winter Meeting SPV/ESCV, Estoril, Portugal
  - Contact: Eurocongressos
  - Phone: +351 218 472 577
  - Email: eurocongressos@mail.telepac.pt

- **24–26 January 2003**
  - Hot Topics in Urinary Tract Infections, Budapest, Hungary
  - Contact: Convention Budapest Ltd
  - Phone: 361 216 1121
  - Email: convention.budapest@mail.datanet.hu
  - Internet: www.lesci.net/conferences/newconferences.htm

- **28 February–2 March 2003**
  - 10th Annual Meeting of the International Herpes Management Forum (IHMF), Paris, France
  - Contact: IHMF Secretariat
  - Phone: +44 (0) 1903 288 000
  - Email: ihmffhbase.com, Internet: www.ihmf.org

- **13–16 March 2003**
  - 6th Annual Management Review for the Practicing Physician, Clinical Infectious Disease 2003, New York, NY, USA
  - Contact: Center for Bio-Medical Communication, Inc.
  - Phone: +1 201 342 5300
  - Email: cmefinfo@ccbiomed.com
  - Internet: www.ccbiomed.com

- **19–21 March 2003**
  - Focus on Fungal Infections 13, Maui, Hawaii, USA
  - Contact: Imedex
  - Phone: +1 770 751 7332
  - Email: meetings@imedex.com
  - Internet: www.imedex.com

- **28–30 March 2003**
  - Symposium on Resistant Gram Positive Infections (RGPI-II), Baveno, Italy
  - Contact: MCA Events
  - Phone: +59 02 3493 4404
  - Email: mcaevents@tln.it

- **5–8 April 2003**
  - 13th Annual Scientific Meeting of SHEA, Arlington, VA, USA
  - Contact: SHEA Meetings Department
  - Phone: +1 858 423 7222
  - Internet: www.shea-online.org

- **6–10 April 2003**
  - 11th International Symposium of Viral Hepatitis and Liver Disease (ISVHLD 2003), Sydney, Australia
  - Contact: ISVHLD 2003 Congress Managers
  - Phone: +612 9262 2277
  - Email: isvhl@tourhosts.com.au

- **23–26 April 2003**
  - Infection: Maximizing the Probability of Positive Outcomes, Las Vegas, NV, USA
  - Contact: SHEA Meetings Department
  - Phone: +1 303 210 2117
  - Email: meetings@usmicron.com
  - Internet: www.infection2003.org

- **1–3 May 2003**
  - 4th International Symposium on Antimicrobial Agents and Resistance (ISAAR 2003), Seoul, Korea
  - Contact: ISAAR 2003 Secretariat
  - Phone: +82 2 3410 0327
  - Email: susan@ansorp.org
  - Internet: www.ansorp.org

- **16–18 May 2003**
  - Antibiotics 2003 – International Congress on Pharmacokinetic/Pharmacodynamic, Bali, Indonesia
  - Contact: Secretariat National Cardiovascular Center Harapan Kila
  - Phone: +62 21 568 4093
  - Email: pharma@pharmacology.com

- **18–21 May 2003**
  - Medical Virology Congress of Africa, Berg-en-Dal, South Africa
  - Contact: Barbara Lillienfeld
  - Phone: +011 803 8461
  - Email: tppeople@licon.co.za

- **18–22 May 2003**
  - American Society for Microbiology General Meeting, Washington, DC, USA
  - Contact: ASM
  - Phone: +1 202 942 9354
  - Internet: www.asmusa.org/mtgsrc/generalmeeting.htm

- **25–29 May 2003**
  - ISHAM 2003, San Antonio, TX, USA
  - Contact: Imedex
  - Phone: +1 770 751 7332
  - Internet: www.imedex.com

- **26 May–4 June 2003**
  - 4th Advanced Vaccinology Course 2003, Les Pensières, Veyrier-du-Lac, France
  - Contact: Betty Dodet
  - Phone: +33-4-7240-7972
  - Email: betty.dodet@fond-merieux.org
  - Internet: www.fond-merieux.org

- **26 May–June 2003**
  - 4th International Symposium on Antimicrobial Agents and Resistance (ISAAR 2003), Seoul, Korea
  - Contact: ISAAR 2003 Secretariat
  - Phone: +82 2 3410 0327
  - Email: susan@ansorp.org
  - Internet: www.ansorp.org

**Other events:**

- **12–15 January 2003**
  - 4th International Symposium on Perspectives in Clinical Microbiology and Infections, Venice, Italy
  - Contact: EAC srl, Milan, Italy
  - Phone: +39 02 5990 2320
  - Email: eacsl@tin.it
  - Internet: www.eac.it

In co-operation with ESCMID
Other events:

29–30 May 2003
International Conference on Surgical Infections: Prevention and Management, Moscow, Russia
Contact: IACMAC
Phone: +7 0812 611301
Email: galkin@antiibiotic.ru
Internet: www.antiibiotic.ru

7–10 June 2003
23rd International Congress of Chemotherapy (ICC), Durban, South Africa
Contact: 23rd ICC Secretarial c/o Congrex Holland bv
Phone: +31 20 5040 200
Internet: www.congrex.nl/icc2003

23–25 June 2003
2003 Annual Conference on Antimicrobial Resistance, Bethesda, Maryland, USA
Contact: National Foundation for Infectious Diseases
Phone: +1 301 366 003 Ext. 19
Email: resistance@nfid.org
Internet: www.nfid.org/

26–28 June 2003
7th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Infections, Chamonix Mont Blanc, France
Contact: Congress Center
Phone: +33 4 50 53 75 50
Email: iscvid7@chamonix.org
Internet: www.iscvid7.chamonix.org

29 June–1 July 2003
Infection and immunity in Children 2003, Oxford, UK
Contact: University Department of Paediatrics
Phone: +44 1865 22 1074
Email: julia.bremble@paediatrics.ox.ac.uk
Internet: www.bpaalig.org/meetings.shtml

20–23 July 2003
2nd International Congress of the Asia Pacific Society of Infection Control, Singapore
Contact: Communication Consultants
Phone: +65 6293 8220
Email: comcon@pacific.net.sg
Internet: www.icas.org.sg/apsic

29 June–3 July 2003
1st European Congress of Microbiology, Ljubljana, Slovenia
Contact: FEMS Central Office
Phone: +31 15 278 5404
Internet: www.fems-microbiology.org/congress2003.htm

4–7 July 2003
Central European Symposium on Antimicrobial Resistance Biljuni, Croatia
Contact: Croatian Microbiological Society
Phone: +385 1 23 90 204
Email: hmd@hmd-cms.hr
Internet: www.hmd-cms.hr

13–17 July 2003
2nd IAS Conference on HIV Pathogenesis and Treatment, Paris, France
Contact: JCD Conseil
Phone: +33 1 40 64 20 50
Internet: www.tasconferences.org

14–17 September 2003
43rd Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC), Chicago, IL, USA
Contact: ASM Conferences
Phone: +1 202 942 9248
Internet: www.asmusa.org

28 September–1 October 2003
9th Congress of the European Confederation of Medical Mycology and 7th TIFI, Amsterdam, The Netherlands
Contact: Congress Care
Phone: +31 73 683 1238
Email: www.ecmm-tifi2003.org

9–12 October 2003
41st Annual Meeting of the Infectious Diseases Society of America (IDSA), San Diego, CA, USA
Contact: IDSA 2003
Phone: +1 703 299 0200
Email: info@idsociety.org
Internet: www.idsociety.org

16–19 October 2003
3rd International Meeting on Antimicrobial Chemotherapy in Clinical Practice (ACCP), Santa Margherita, Portofino, Italy
Contact: Progetti di Congress Studio srl
Phone: +39 02 319 6951
Email: info@congress-studio.it
Internet: www.accp.it

17–21 October 2003
5th European Congress of Chemotherapy and Infection, Rhodes, Greece
Contact: Congrex Sweden AB
Tel: +46 8 459 64 00
Email: ecc5@congress.se
Internet: www.congress.com/ecc5/

26–29 October 2003
9th European Conference on Clinical Aspects and Treatment of HIV Infection, Warsaw, Poland
Contact: K.I.T. GmbH
Phone: +49 30 24 60 30
Internet: www.eacs-conference2003.com

9–12 November 2003
4th Congress of the International Federation of Infection Control, St. Julians, Malta
Contact: Infection Control Unit
Phone: +356 21 235 447
Email: infection.control@gov.mt
Internet: slh.gov.mt/iflic2003.htm

14–16 November 2003
2nd International Symposium on Resistant Gram-Positive Infections, Berlin, Germany
Contact: K.I.T. GmbH
Phone: +49 030 246 03 240
Email: rgipl@kit.de
Internet: www.kit.de

2–5 December 2003
8th World STI / AIDS Congress, Punta del Este, Uruguay
Contact: Anette Lifors
Email: anettel@ids2002.com
Internet: www.congrex.com/ssi-aid2003/

3–5 December 2003
6th International Epidemiological Association Scientific Meeting in the Eastern Mediterranean Region, Ahwaz, Iran
Contact: Hamid Soori
Phone: +98 611 336 3312
Email: 4IEA@ausm.ac.ir

7–10 December 2003
6th Asia Pacific Congress of Medical Virology, Kuala Lumpur, Malaysia
Contact: Jalan Yacob Latif
Phone: +603 9170 3836
Email: APCMV6@mail.hukm.ukm.my
Internet: www.6APCMV.medic.ukm.my

10–12 December 2003
International HIV Persistence Workshop
Internet: www.avps.org

15–17 January 2004
ESCV Winter Meeting, Copenhagen, Denmark
Contact: Birte Rothstein
Phone: +45 3268 3355
Email: bir@ssi.dk
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4–7 March 2004
11th International Congress on Infectious Diseases (11th ICID), Cancun, Mexico
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24–29 July 2005
Meeting of the International Union of Microbiological Societies (IUMS) 2005, San Francisco, CA, USA
Contact: American Society for Microbiology