



# circular

July 2005 No. 58

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## Editorial

Europe has started to prepare the 7<sup>th</sup> framework programme in science and research and it is clear that microbiologists and microbiology should play an important role in this activity, which will set research for the next decade. FEMS started to be involved in this EU research programme via its members and on its own; a great improvement compared to FEMS' role in the EU 5<sup>th</sup> framework programme (1998–2002).

FEMS started to be more efficiently involved in EU research and building capacity during the preparation of its first congress and this will be the same during the preparation of the second congress. The last years we had EuroMicroDays to enhance cooperation amongst stakeholders in the area of microbiology. The microbiologists were faced in 2003 with various programmes like the 6<sup>th</sup> framework programme (FP6), COST, INTAS, NATO, EUREKA, ESF and EMBO. In 2004, scientists, entrepreneurs, teachers, regulators and other professionals prepared innovative project proposals.

The main result of these activities is a better cooperation in the area of microbiology. For example, within the 6<sup>th</sup> framework programme, we can find ERA\_NET PATHOGENOMICS (Trans-European cooperation and coordination of **genome** sequencing and functional genomics of human-**pathogenic microorganisms**), which is offering many possibilities to microbiologists in their regions. In addition to this, we can not ignore the large networks achieved via IP (integrated projects) and NoE (networks of excellence) in the 6<sup>th</sup> framework programme and they will contribute much to microbiology in achieving new levels in understanding microbiology (one of these networks is presented in this circular). The networks also enhance cooperation with industry, but it is obvious that we

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Microflora of grape berries.

## FEMS Meetings Calendar

### 2005

#### 22<sup>nd</sup> International Conference on Yeast Genetics and Molecular Biology

August 7–12, 2005

Bratislava, Slovakia

#### 9<sup>th</sup> Symposium on Aquatic Microbial Ecology (SAME-9)

August 21–26, 2005

Helsinki, Finland

#### Pseudomonas 2005

August 27–31, 2005

Marseilles, France

#### 2<sup>nd</sup> International ASM–FEMS Conference on Enterococci

August 28–31, 2005

Helsingør, Denmark

#### 8<sup>th</sup> Symposium on Lactic Acid Bacteria

August 28–September 1, 2005

Egmond aan Zee, Netherlands

#### FEMS–ESCMID Conference on New Frontiers in Microbiology and Infection: Lessons from Escherichia coli: from Basic Research to Clinical Aspects

September 4–8, 2005

Villars-sur-Ollon, Switzerland

#### 13<sup>th</sup> International Biodeterioration & Biodegradation Symposium (IBBS-13)

September 4–9, 2005

Madrid, Spain

#### Summer School on: “Biomonitoring, Bioavailability and Microbial Transformation of Pollutants in Sediments and Approaches to stimulate their Biodegradation”

September 12–14, 2005

Genoa, Italy

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should do more in this direction. Not just more, but also faster, to stay in the forefront of the global arena.

Europe is establishing its future also with documents such as "A Vision for 2025 Industrial or White Biotechnology, A driver of sustainable growth in Europe". The term "white biotechnology" is introduced showing that microbial biotechnology or industrial biotechnology is making an increasingly important contribution to the development of a sustainable, bio-based world economy. The contribution of microorganisms in sectors such as chemistry, food, paper and pulp, textiles and energy will remain important in Europe.

Although healthcare ("red" biotech) and agriculture ("green" biotech) have dominated so far, "white" biotechnology is believed to become an important player. Conventional processes in chemical and textile industries will be transformed, and bio-fuels will make an important contribution to our overall energy needs. The use of microorganisms to replace existing processes could make many industries more efficient and environmentally friendly and contribute towards industrial sustainability. Waste will be reduced, energy consumption and greenhouse gas emissions will be lowered and greater use of renewable raw materials will be made.

The Federation of European Microbiological Societies has to be active in all these areas, sometimes directly as an organisation, but even more important, via the individual members of the societies. We all can contribute much to this mission in the coming years. FEMS has become recognized by its devotion to microbiology and consequently to the promotion of microbiology in Europe. This can be achieved only with the help of each of us in our professional area.

Professor Dr Peter Raspor  
FEMS Circular Chief Editor



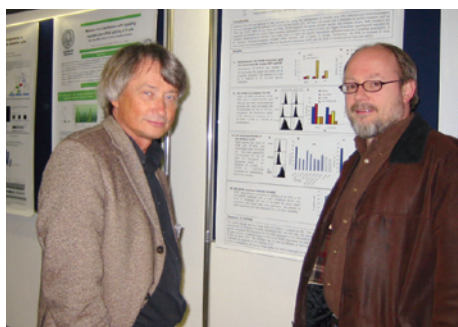
## MEETINGS

## Bacteriologists and Virologists discussed Microbial Infection

April 7–9, 2005  
Wuerzburg, Germany

### Received FEMS Meeting Support Grant

The aim of this meeting was to bring together scientists from the disciplines of Bacteriology and Virology to discuss recent advances in their fields. The background for this is the appreciation that more and more similarities are seen in our understanding of bacteria on the one hand and viruses on the other. For instance, drug therapy and the development of resistance has always been seen as a domain of Bacteriology. However, antivirals against various viral diseases have become more easily available in recent years and the problem of resistance development under the condition of antiviral therapy therefore becomes more and more important. On the other hand, gene therapy has always been a domain of viral vectors. However, in recent years bacteria as delivery systems, for instance for vaccines, have become



Professor Thomas Huenig (left), and Professor Juergen Schneider-Schaulies.

more and more popular. Hence, it appeared opportune to organize a meeting covering the topics of Bacteriology and Virology.

The second aim of the meeting was to create the possibility for young researchers to present their data and discuss their findings with well-established scientists. Organizing poster sessions, at which young researchers could present their data, fulfilled this aim. Furthermore, we did not charge a registration fee for the meeting. That enabled many young scientists and students from the Wuerzburg area and from abroad to take part in the symposium and the lively discussions after the talks.

Professor Axel Rehtwilm  
Institute of Virology and Immunobiology,  
Wuerzburg, Germany

## FEMS Meetings Calendar

## 2006

### Meeting on Microbial Respiratory Chains

March 19–23, 2006  
Tomar, Portugal

### International Conference on Alpine and Polar Microbiology

March 27–30, 2006  
Innsbruck, Austria

### Central European Symposium on Antimicrobial Resistance (CESAR 2006)

June 18–21, 2006  
Strbske Pleso, Slovak Republic

### Systems Biology of Yeast - from Models to Applications (ISSY25)

June 18–22, 2006  
Espoo, Finland

### 5<sup>th</sup> Joint RRI-INRA Symposium on Gut Microbiology: Research to improve Health, Immune Response and Nutrition

June 21–23, 2006  
Aberdeen, United Kingdom

### 10<sup>th</sup> Symposium on the Genetics of Industrial Microorganisms (GIM)

June 24–28, 2006  
Prague, Czech Republic

### International Symposium on Microbial Sulfur Metabolism (ISMSM)

June 29 – July 2, 2006  
Munster, Germany

### 2<sup>nd</sup> FEMS Congress of European Microbiologists

July 4–8, 2006  
Madrid, Spain

### 11<sup>th</sup> International Symposium on Microbial Ecology (ISME 11): The Hidden Powers – Microbial Communities in Action

August 20–25, 2006  
Vienna, Austria

### Hospital Acquired Infections

September 1–2, 2006  
Glasgow, United Kingdom

### Molecular Basis of Bacterial Virulence and Survival Within Infected Hosts and in the Environment

September 5–15, 2006  
Island of Spetses, Greece

### 4<sup>th</sup> Recombinant Protein Production Meeting

September 21–23, 2006  
Barcelona, Spain

### Translational Control and Non-Coding RNA Meeting

September 21–24, 2006  
Nove Hrad, Czech Republic

Full information on these meetings at:  
[www.fems-microbiology.org](http://www.fems-microbiology.org)  
> Events > FEMS Meetings

## Council Meeting 2005

The 32<sup>nd</sup> Council meeting will take place in Bologna, Italy, on Saturday September 24, 2005.

## Meeting in Warsaw, Poland

On December 8, 2004, Professor Peter Raspor, FEMS Secretary General, visited the National Institute of Public Health, Warsaw, Poland. He met the newly-elected President of the Polish Society of Microbiologists (PSM) Professor Waleria Hryniewicz and the FEMS delegate of the PSM, Professor Stefan Tyski. Potential contributions of the Polish Society of Microbiologists to FEMS educational and research activities were discussed. These include joint research programmes, involving several microbiological societies from different European countries and could be potentially accomplished under

the 7<sup>th</sup> EU Framework Programme. Educational courses in clinical microbiology and bacterial genetics are planned to be organised in Warsaw by the members of the Polish Society of Microbiologists under FEMS' auspices. Professor Raspor also visited several departments involved in clinical and pharmaceutical microbiology at the National Institute of Public Health, providing him a chance to get acquainted with current research topics, such as bacterial virulence factors, molecular mechanisms and evolution of antibiotic resistance, molecular epidemiology

of major human infections, HIV and HCV infections, and the development and standardisation of typing methods. Professor Raspor was also interested in the microbiological evaluation of the quality of medical products, determination of the content and purity of antibiotics, antiseptics efficacy testing as well as dissolution tests.

Dr Stefan Tyski  
FEMS Delegate  
Polish Society of Microbiologists

## EUROPEAN RESEARCH AREA



Participants at the **ERA-NET PathoGenoMics** Meeting on European Research Agenda in Pathogenomics (WP 3), in Paris at the Institut Pasteur, on May 23–24, 2005. See for more information <http://www.pathogenomics-era.net>.

## The launch for the „EuroPathoGenomics“ Network of Excellence draws near

Institutions such as the Research Center for Infectious Diseases or the PathoGenoMik Competence Center make the University of Würzburg one of the hot spots for research in this field. In fitting with its scientific rank, Würzburg will coordinate the new European „EuroPathoGenomics“ Network of Excellence, which is to be headed by Prof. Jörg Hacker. The kick-off meeting and the official launch of the network took place on July 1, 2005 in Paris.

The network has partners from 13 different countries and includes amongst others the Pasteur Institute, the University of Oxford and the Karolinska Institute. The major

objective is to get to grips with the mass of genomic information that has become available for both microorganisms and their hosts. The joint efforts from leading European research teams are expected to result in new applications for diagnostics, drug and vaccine development.

BioMedTec Franken e.V. is a partner within the network and will perform coordinative functions.

Further information:  
Dr. Andreas Demuth  
[ad@biomedtec-franken.de](mailto:ad@biomedtec-franken.de)



“Bottom-up approach” (the initiative of launching a COST Action comes from the European scientists themselves), “à la carte participation” (only countries interested in the Action participate), “equality of access” (participation is open to European countries not belonging to the European Union) and “flexible structure” (easy implementation and light management of the research initiatives) are the main characteristics of COST.

As a precursor of advanced multidisciplinary research, COST has a very important role for the realisation of the European Research Area (ERA) anticipating and complementing the activities of the Framework Programmes, constituting a “bridge” towards the scientific communities of emerging countries, increasing the mobility of researchers across Europe and fostering the establishment of “Networks of Excellence” in many key scientific domains such as: Physics, Chemistry, Telecommunications and Information Science, Nanotechnology, Meteorology, Environment, Medicine and Health, Forestry, Agricultural and Food Sciences and the Social Sciences and Humanities. It covers both basic and more applied or strategic research and also addresses issues of a pre-normative nature or of societal importance.

COST has been supporting networks related to microbiology. In the domain of Agricultural and Food Sciences around 30 Actions are running at the moment, mainly

focussing on sustainable production, reducing environmental pollution, welfare of animals, food and food safety and on the relation between food and health. To give a few examples: One of the running COST Actions on “zoonoses and food safety” is bringing together not only researchers from different disciplines, but also experts from Food Safety organisations, to identify the critical contamination points in the food processing chain affecting the safety of the final product and to learn more about the mechanisms of survival along the food chain. For plant health, microorganisms in the soil are very important. COST has supported networks in this area and still does. Arbuscular Mycorrhizal (AM) fungi play a crucial role in plant nutrient acquisition and in plant protection from plant pathogens and environmental stress. One of the COST Actions is bringing together researchers in this area to discuss the possibilities for and the effects of AM-inoculation.

Mr Tony Mayer  
Director COST Office  
<http://cost.cordis.lu>



## COST

COST – the acronym for European Cooperation in the field of Scientific and Technical Research – is the oldest and widest system for research networking in Europe. From the outset in 1971 a commitment to the “wider” Europe was demonstrated with the involvement of 19 countries. Starting from a limited number of domains, COST has now grown into a system for research collaboration covering 34 Member States plus one cooperating state, Israel, and is active in 13 scientific domains.

The mission of COST is to strengthen Europe in scientific and technical research through the support of European cooperation and interaction among European researchers. The COST system is primarily funded from a specific line within the EU Sixth Framework Programme.



## 2nd FEMS Congress July 4–8, 2006 / Madrid, Spain

Updates on [www.fems-microbiology.org/congress](http://www.fems-microbiology.org/congress)

### Important Dates:

Abstract submission open:  
**November 1, 2005**

Abstract deadline: **March 15, 2006**  
Early registration deadline: **March 15, 2006**

### Plenary lectures:

- Intracellular Proteolysis: From a vague idea onto the patient bed
- Metagenomics
- Evolution of microbial pathogens
- Emerging and re-emerging viruses

### Symposia:

- Networking and biocomplexity: Systems microbiology
- Microbial macromolecular machines
- Viral engineering: Vaccines and gene therapy
- Molecular basis of host–pathogen interactions
- Microbial proliferation
- Environmental genomics and metagenomics
- Trends in food technology
- Microorganisms as cell factories for new materials and processes
- Immune evasion
- Gene expression
- Microbial consortia and biofilms in environment and disease
- Synthetic microbiology, biocatalysis and bioremediation
- Microbial life at the limit
- Emerging infections
- Intracellular signalling
- Biodiversity
- Protein export and secretion
- Innovative strategies in search of new antimicrobial agents and vaccines
- The global thread of bacterial multiresistance
- Genomic, proteomic and metabolomic approaches

- Mode of action of microbial toxins
- Geomicrobiology

### Afternoon sessions:

- Nanotechnology and single-cell study
- Biosafety and biocontainment in the microbiological practices
- Computational analysis in microbiology
- Advanced microscopy techniques for the study of microbial cells
- Rhizosphere and soil microbiology
- Plant pathogen interactions
- Virulence-related protein secretion pathways (type III, type IV)
- Co-evolution of mankind and disease
- Novel approaches for the identification and typing of microbes
- Water quality
- Climate changes, microbial ecology and infectious diseases
- Horizontal gene transfer in microbial evolution
- Viral evolution and pandemics
- Pathogenic fungi
- Microbial response to stress
- Marine microbiology
- Microbial taxonomy
- Protein quality control – chaperons and proteases
- Emerging features of bacteriophage biology
- Two component systems response regulators
- Microbial risk assessment
- Fungal cell-wall biogenesis
- Microbial involvement in chronic human diseases



### Grant Applications

Applications for *Research Fellowships and Visiting Scientist Grants* should be submitted to the FEMS Delegate for approval. The Delegate will then submit approved applications to FEMS. Deadline for receipt at FEMS Central Office: **1 December** and 15 June.

Applications for *Meeting Grants* should be approved by the FEMS society in the country where the meeting takes place. Deadline for receipt at FEMS Central Office: **1 March of the preceding year.**

Applications for *Young Scientists Meeting Grants* by young scientists wishing to attend selected FEMS Meetings should be submitted to the meeting organisers. The organisers will then forward the applications to FEMS.

Detailed Regulations and Application Forms are available at the FEMS website: [www.fems-microbiology.org](http://www.fems-microbiology.org) > **Events > Grants**

### YOUNG RESEARCHER'S CORNER

## Moscow → Delft



Elena Doroshenko visited for three months the Kluyver laboratory in Delft, The Netherlands. She was one of the 47 young researchers receiving a FEMS Research Fellowship in 2004.

"Molecular techniques are indispensable in modern environmental microbiology. My home laboratory, the Winogradsky Institute of Microbiology of the Russian Academy of Sciences, has a great interest in the introduction of such methods into current investigations, and needs young, skilled specialists for this. So I was very lucky to get a FEMS Research Fellowship and had three months training in the group of Professor Gerard Muyzer at the Delft University of Technology, The Netherlands. Professor Muyzer is a world-leading expert in the development and use of the PCR-DGGE technique for the analysis of microbial communities, and the visit to his group has given me a unique chance to make myself familiar with such methods. Under his leadership I have investigated the microbial communities of extremophilic soda soils by DGGE analysis of 16S rRNA and *nifH* gene fragments.

I was very glad to work in this very friendly and international group, and they quickly made me feel like a part of the collective. Despite of my expectation that I would be alone in a new country, I actually was actively involved in different university events. I have participated in scientific

seminars and lectures, cleaned the laboratory rooms and visited the laboratory parties. I was very impressed by Black Pete, the Dutch satellite of Santo Nicolas, who had presented me with sweets. I was surprised to see the official procedure of the defence of the PhD dissertation in Delft; it was very different from the same procedure in Russia and looked like a medieval ceremonial. Before arriving, I did not know much about The Netherlands, but my trip has provided me with an insight into the complex and beautiful history and culture. I had the opportunity not only to see Delft, but also to visit Amsterdam, The Hague, Gouda, Rotterdam and Utrecht. I was very happy to see paintings of famous artists and to taste original Dutch cheeses.

I would like to offer my heartfelt thanks to FEMS for this fellowship, which provided me with an incredible experience of my life. My visit to Delft gave me the opportunity to meet a friendly and dedicated group of people who were enthusiastic about their work and to develop a working relationship, which I hope will lead to future collaborative research. The knowledge I gained during my visit has lots of applications in my current work in Moscow."

## Bacterial Genomics

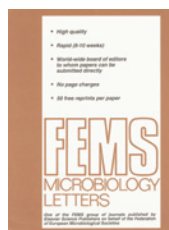
*FEMS Microbiology Reviews*, Vol. 29(2), April 2005. Edited by Michael Y. Galperin, Mark John Pallen and Charles W. Penn. Available online at <http://www.sciencedirect.com/science/journal/01686445>.

This thematic issue of *FEMS Microbiology Reviews* provides a good perspective on the tremendous impact that the completion of over 200 microbial genomes has had on various aspects of microbiology, from microbial systematics to molecular biology and clinical microbiology.

## Onward and upwards: Volume 250!

*FEMS Microbiology Letters* will publish Volume 250 in September 2005. In January 1977 the first issue was published of this rapid turnaround journal. In the beginning only two volumes per year were published, but that changed quickly. In December 1992 Volume 100 appeared. Presently *FEMS Microbiology Letters* publishes 24 issues in 12 volumes annually.

Available online at <http://www.sciencedirect.com/science/journal/03781097>.



Distributed in 1992, a leaflet for FEMS Microbiology Letters.

## Microbial Life in Cold Ecosystems

*FEMS Microbiology Ecology*, Vol. 53(1), June 2005. Edited by Max Häggblom and Rosa Margesin. Available online at: <http://www.sciencedirect.com/science/journal/01686496>

The selection of papers in this issue highlights the exciting diversity of cold-adapted microorganisms. This thematic issue includes papers on the ecology of polar, alpine and boreal environments, the diversity and physiology of psychrotolerant microorganisms, permafrost microbiology, biogeochemical nutrient cycling, as well as biodegradation of toxic pollutants and bioremediation of contaminated sites. These and other topics were addressed during the International Conference on Arctic Microbiology that was held in Rovaniemi, Finland, March 22–25, 2004. This was the first comprehensive international conference to be held on this topic, with FEMS as one of the main sponsors, and brought together scientists from academia, industry and government representing 15 countries, from Europe, North America and Asia.

## Invitation

*FEMS Microbiology Reviews* invites suitably qualified senior microbiologists to join the Editorial Board from January 2006. Please send an outline curriculum vitae showing recent publications and noting areas of research interest and previous editorial experience to the Chief Editor Dr Ramón Díaz-Orejas at [fems-reviews@cib.csic.es](mailto:fems-reviews@cib.csic.es).

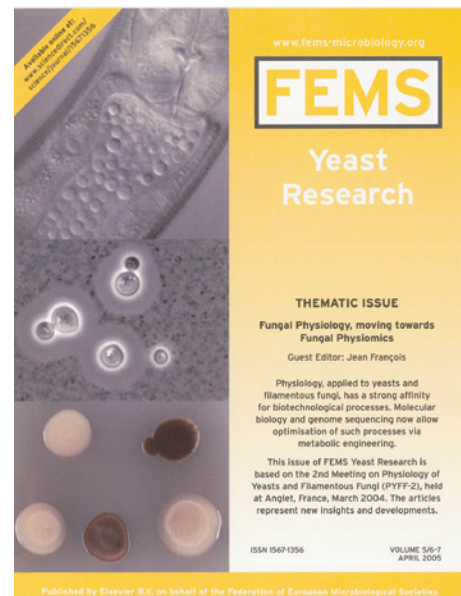
## Helicobacter Infections

*FEMS Immunology and Medical Microbiology*, Vol. 44(2), May 2005. Edited by Johannes G. Kusters. Available online at: <http://www.sciencedirect.com/science/journal/09288244>

Selected papers from the 6<sup>th</sup> International Workshop on Pathogenesis and Host Response in *Helicobacter* Infections (June 2004, Helsingør, Denmark) are presented in this thematic issue of *FEMS Immunology and Medical Microbiology*. This issue provides an update of information and covers a broad range of fundamental research issues in pathogenesis and host response of *Helicobacter* infections.

## Free articles on Blackwell Synergy, the new online host of the FEMS journals

As of June 2005 any articles in press awaiting printed publication in 2006 will be available and downloadable free of charge on Blackwell Synergy. This will apply to all our five journals and will run up to and including December 2005. This has been heavily promoted at the IUMS (July, 2005) thereby encouraging increased article downloads and readership for these articles and their respective journals.



In April 2005 a thematic issue of *FEMS Yeast Research* was published on "Fungal Physiology, moving towards Fungal Physiomics". This issue is based on the 2<sup>nd</sup> Meeting on Physiology of Yeasts and Filamentous Fungi (PYFF-2), held at Anglet, France, March 2004. Edited by Jean François. Available online at: <http://www.sciencedirect.com/science/journal/15671356> (Vol. 5(6–7)).

## We need your help!

In the FEMS Publications Office we are trying to complete the print archive of all FEMS journals. If you have any old issues of our journals from 1994 up to and including 1997 and you are planning to dispose of them, we would be very pleased to receive them. Please contact our Editorial Assistant, Ms Martha Pelkman, via Email: [admin.journals@fems-microbiology.org](mailto:admin.journals@fems-microbiology.org) or telephone: +31-15-369 3920!



**In 2006 FEMS journals will be published by Blackwell Publishing.**

# Financial report for 2004

In 2004, the major financial events for FEMS were the formation of FEMS-NL, a Foundation (Dutch word –“Stichting”) to enable us to employ our own staff within the Netherlands, the engaging of a new publisher for our scientific journals and the preparations for the next FEMS Congress to be held in Madrid, Spain, July 4–8, 2006.

## FEMS-NL “Stichting”/Foundation

As a consequence of the Delft University of Technology (DUT) no longer being able to act as the employer for FEMS staff after November 30, 2004 (as reported last year) FEMS had to become an employer in its own right. In order to do this, it had to first become a legal entity in the Netherlands and after taking appropriate legal advice, an entity known as FEMS-NL (a “Stichting”/Foundation) was set-up. The day-to-day management of this is split between the two Executive Officers, one of whom is responsible for the payroll matters and one of whom is responsible for human resources matters. This has involved both Executive Officers with an enormous amount of exacting new work, and we are most grateful to the Officers for doing this. The management of FEMS-NL is formally overseen by the members of the FEMS Executive Committee who now have a dual role in this regard. Overall, they form an Advisory Council of FEMS-NL, who in turn appoint a Board of FEMS NL from their midst. The Board is the primary interface with FEMS-NL and its staff.

## A new publisher for FEMS

As a consequence of the contract with our existing publisher ending in 2005, a very careful and thorough tendering process was set-up by the Publications Manager to decide which publisher could best serve the interests of FEMS in the future. A consultant was engaged to assist with this process during 2004 and the outcome was that another publisher was chosen with the benefit of a €500,000 signing fee. Work on effecting an orderly transition to the new publisher is already well underway.

## FEMS Congress 2006

Planning for the 2<sup>nd</sup> FEMS Congress continued in 2004. The financial side of the Congress is based upon a business plan assuming 2,000 registrants and the business plan underwent refinement throughout the year as the planning process progressed. The finalisation of the level of the registration fee (the major source of income to the Congress) will take place in 2005.

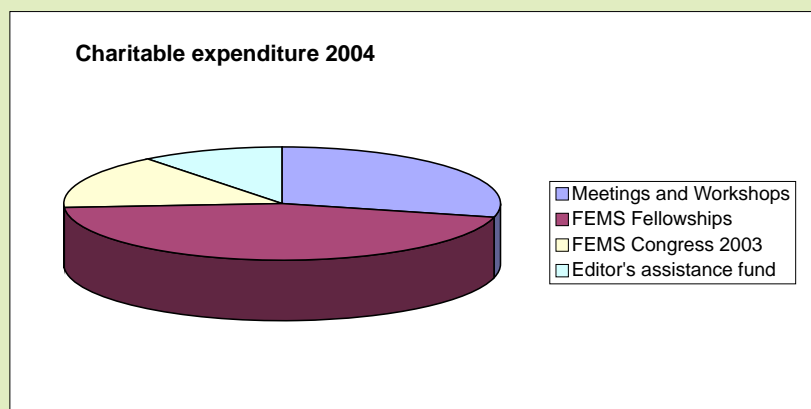
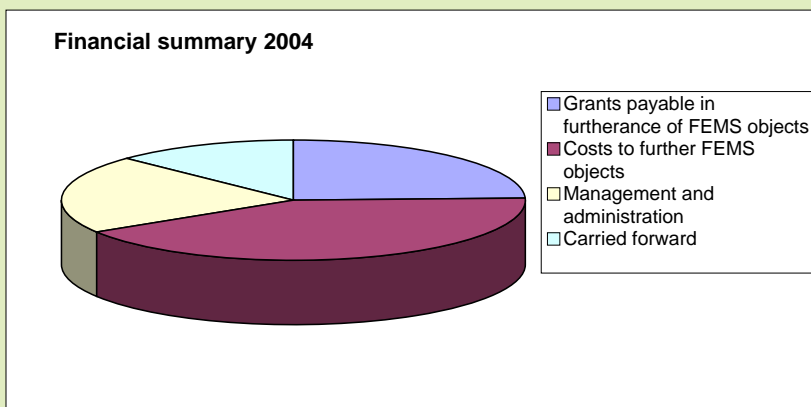
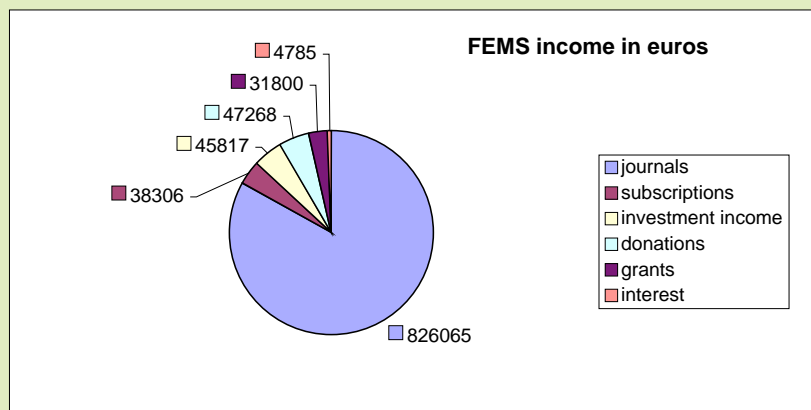
## Charitable expenditure

During the year 2004, FEMS supported 10 meetings either with meetings support grants or with young scientist's grants or both to a total sum of €68,541. It is important to note that funding up to the budgetary figure of 125,000 euros was committed for expenditure for meetings taking place in 2005. Fellowships to the total value of 106,496 euros were awarded to 47 microbiologists to assist them to spend time working in laboratories in countries other than their own. The total of grants payable in furtherance of the Federation's objectives was €204,923.

## Reserves

At the end of 2004 our reserves stood at €1,444,593 and we are comfortable that our current and expected future reserves will be adequate to support the programme of work outlined for the foreseeable future. FEMS investments remain our biggest asset and these continue to be held in London using the services of a stockbroker. At the end of 2004, the investment portfolio value stood at €1,136,231. The portfolio was managed on a consultation basis for the majority of 2004 but was switched to a discretionary basis at the end of 2004, a move adopted by a number of UK-based charities. In each case, its performance was monitored carefully by the Treasurer as well as the Stockbroker. Our long-term financial aim remains of course to generate sufficient income to enable us to increase the level of support we give to microbiology in Europe.

Dr Maurice A. Lock  
FEMS Treasurer





## FEMS-Jensen Award 2005 – First award granted

The FEMS-Jensen Award was initiated by Professor John R. Norris (FEMS Treasurer 1996–2003) in honour of his tutor, the Danish soil microbiologist Dr Hans Laurits Jensen (1898–1977) for helping young scientists in establishing their scientific career. The award is therefore intended to recognise academic achievement and superior research accomplishments showing significant potential to develop an outstanding research career. This award of €10 000 in support of at least half a year of research work, will be made once every two years. (See for further information the previous FEMS Circular, January 2005, page 10, or the FEMS Website.)

The FEMS Awards Board selected **Dr María Luisa del Río González** as the first awardee for this prestigious award. Dr Del



The first FEMS-Jensen Awardee: Dr María Luisa del Río González.

Río, currently working at the Arrixaca University Hospital in El Palmar (Murcia), Spain, will execute her research project in the laboratory of Professor Reinhold Förster, at the Medizinische Hochschule, in Hannover, Germany. She started in July

2005 to work on her research project entitled: "The role of chemokine receptors in B-cell migration in response to a thymus-independent antigen".

The objective of the project is to determine the role of the chemokine receptors CXCR5 and CCR9 as well as of b2-integrin in the migration of plasma cells differentiating from peritoneal cavity B-cells to the spleen in response to a thymus-independent type 2 antigen. Splenectomized patients are prone to suffer from repetitive pneumococcal infections, but they respond remarkably well to a thymus-independent unconjugated polysaccharide vaccine elaborated from a mixture of capsular

polysaccharides of 23 different serotypes of *Streptococcus pneumoniae*, when the antigen is administered subcutaneously. Interestingly, splenectomized mice do not mount an immune response when they are challenged intraperitoneally with the same antigen. This indicates that the route of antigen administration and delivery, that is, draining lymph node versus peritoneal cavity, is critical to achieve a productive humoral immune response and formation of plasma cells. Chemokine receptors are involved in the trafficking of immune cells and our proposal is aiming at tracking down the migration of plasma cells in response to a thymus independent type 2 antigen from the peritoneal cavity to the spleen and bone marrow in splenectomized and non-splenectomized WT mice after adoptive transfer of peritoneal cavity B cells from CXCR5-, CCR9- and b2-integrin deficient mice.

## FEMS-Lwoff Award 2006 – Call for Nominations

The FEMS-Lwoff Award was initiated at the 25<sup>th</sup> anniversary of FEMS (2000) in honour of the 1<sup>st</sup> FEMS President, Professor André M. Lwoff. The FEMS-Lwoff Award is given for outstanding service to microbiology in Europe. All fields of microbiology are considered. It is intended as a reward for a person or a group of persons, preferably working and residing in Europe. The FEMS-Lwoff Award consists of a prize-lecture presented at a FEMS Congress, a medal, and an honorarium of €1000.

The third award will be presented at the 2<sup>nd</sup> FEMS Congress of European Microbiologists (July 4–8, 2006) in Madrid, Spain.

**Nominations** for the FEMS-Lwoff Award 2006 will be received at FEMS Central Office until **November 15, 2005**. Full details on the award and its nomination and selection procedures may be found

at the FEMS website under Federation > Awards.



The front of the silver FEMS-Lwoff medal, presented to awardees.

## FEMS Special Merits Award

This award is given to acknowledge and honour extraordinary services rendered to FEMS on the organisational, structural, and/or administrative level.

Candidates for this award, i.e., persons that have altruistically contributed to the objectives of the Federation, may be proposed at any time. A proposal should include the candidate's CV, her/his special merits, and a recommendation letter written by the proposer.

The first award has been presented to Ir Lex Scheffers in 2003 at the occasion of the 1<sup>st</sup> FEMS Congress for his structural inputs to the Federation, his organisational inputs in establishing FEMS Central Office, and for founding a new FEMS journal *FEMS Yeast Research*.

Dr Diman van Rossum  
FEMS Executive Officer



Ir Lex Scheffers (at the right) receives the official commendation of the FEMS Special Merits Award handed by FEMS Executive Officer, Dr Diman van Rossum.

## FEMS-ESCMID Research Fellowships 2005

ESCMID and FEMS have agreed to offer each year two joint fellowships to foster excellent research in the field of microbiology. Each organisation will select annually one individual among their recipients of a research fellowship to receive an additional amount of €1000 from the other organisation.



Ida Kovacs (Szeged, Hungary) has been awarded for her research topic on "Association between the genotypes of human cytomegalovirus isolates and their ability to induce IL-8 production in Syncytiotrophoblast cells". She stayed three months in the laboratory of Dr A. Davison, Glasgow, United Kingdom.

ESCMID awarded Adilia Warris from Nijmegen, the Netherlands. Her project was on: "Host-pathogen interactions in the innate immune response against *Aspergillus fumigatus*."



### Professor Eduard Kellenberger, FEMS President (1980–1983)

At the age of 84 years on December 13, 2004, Professor Eduard Kellenberger has passed away from a heart failure. The FEMS Executive Committee and the FEMS Member Societies, together with his widow Madame Cornelia Kellenberger-Van der Kamp, mourn his loss.

Professor Eduard Kellenberger was an Emeritus Professor for Microbiology at the Biozentrum of the University of Basel. Before retiring he was a research group leader in this institute. He strongly influenced the concept of designing the Biozentrum as a broadly interdisciplinary oriented graduate school.

Professor Eduard Kellenberger studied Physics at the University of Geneva and started research on a new electron microscope, developed by a Swiss company. He has developed electron microscopy into a very powerful tool, which enabled observations on bacteria, viruses and even structures of protein complexes and bacterial intracellular structures. By combining inventiveness, persistence and

broad technological and biological know-how, he succeeded to advance electron microscopy to a high degree of precision, which even enabled the performance of quantitative studies, so important in bacteriology and virology.

On an international level, Prof. Eduard Kellenberger was one of the founders of the "European Molecular Biology Organisation" (EMBO) and of the "International Union for Pure and Applied Biophysics" (IUPAB). He was also active in education and strongly advanced the idea of interdisciplinary studies. Professor Eduard Kellenberger contributed much to the development and expansion of FEMS, being a President in the early eighties.



Professor Eduard Kellenberger.

Dr Eliona Ron  
FEMS President

## INTERNATIONAL AFFAIRS

### Enteroviral infection control

A training seminar for virology and epidemiology specialists entitled "Modern methods of laboratory monitoring of human enteroviral infection" took place on April 28, 2005, in Minsk, in the Institute for Microbiology and Epidemiology. Among the participants of the seminar there were virologists and epidemiologists of hygiene and epidemiology centres of all districts of Belarus and the city of Minsk, and laboratory doctors of major isolation hospitals of the Republic and other specialists.

The seminar consisted of two parts. During the first part the following issues were considered: Important problems of organisation and conducting of enteroviral infection monitoring; Epidemiologic features of enteroviral infection incidence in the whole Republic and particularly in the city of Minsk; Laboratory diagnostics of enteroviral heart infections and indication of viruses in food. Proper attention was devoted to the analysis of results of molecular-epidemiology investigations aimed at the study of molecular-genetic characteristics of enteroviral infectious agents and ways of their transmission during outbreaks.

The second part of the seminar was dedicated to a discussion concerning practical experience of application of modern methods for diagnostics of enteroviral infection, and detection of enteroviruses in environmental and food samples and identification of the agents. Special attention was drawn to serological and molecular-biological methods such as ELISA and PCR.

The participants were informed about new guide documents in the field of diagnostic and environmental virology, and upcoming changes in sanitary legislation, concerning virological drinking water quality control. The seminar contributed to the improvement of enteroviral infection control in our country both in human population and in the environment.

Dr T. Amvrosieva  
Dr A. Bezrouchko



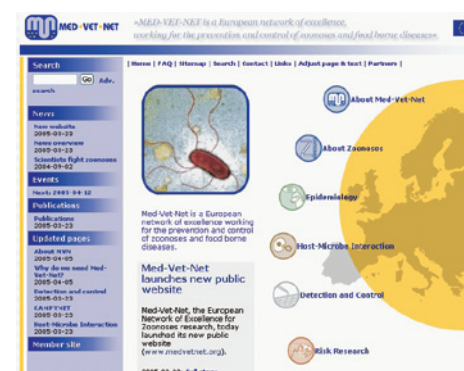
From left to right: Director of the Institute for Epidemiology and Microbiology, Prof. Dr. Leonid Titov; Chief-Epidemiologist of the Ministry of Health of the Republic of Belarus, Dr Anatoly Kozhemyakin; and Head of the Department of Virus Ecology and Epidemiology of the Institute for Epidemiology and Microbiology, Dr Tamara Amvrosieva.

### Med-Vet-Net, the European Network of Excellence for Zoonoses research, has launched its new public website

The success of Med-Vet-Net is largely a reflection of its ability to spread information and knowledge and thus one key objective is communication. Central to this is the inclusion of the Society for Applied Microbiology (SfAM) as a partner – the oldest microbiology-based learned society in the UK. SfAM has formed a Communications Unit, which will use the most effective mechanisms to deliver and share Med-Vet-Net information through the web ([www.medvetnet.org](http://www.medvetnet.org)), television, radio and the press, with the general public and stakeholders including policy makers, industry, food producers and other researchers.

The Communications Unit is responsible for a monthly newsletter, development and maintenance of the internal and public websites, media liaison, publications, presentations, and development of a science communication internship programme.

The public website has been recently launched, and will provide a gateway for public information on infectious diseases transmitted by animals. Links to current news stories, an overview of the networks' research topics and information on partner institutes feature on the site. The calendar of event announcements is also regularly updated. As work within the Network progresses, the website will provide research results from each partner institute together with any relevant publications. Work is in progress to expand the site to include fact sheets about relevant zoonotic diseases as a useful external resource.



Visit <http://www.medvetnet.org> or contact the Communications Unit at [communications@medvetnet.org](mailto:communications@medvetnet.org) for more information.





## Activities of the Society for General Microbiology

The SGM's Microbiology Awareness Campaign aims to raise the profile of the subject to the public, school pupils, politicians and government bodies, in the light of current issues such as health scares, recruitment to undergraduate courses, research funding and shortages of qualified microbiologists in some fields.

In March 2005 the Society ran an event at the House of Lords in London with the theme 'Fighting Infection'. There were talks on topical issues such as HIV, malaria, TB and the need for microbiology education, plus exhibits on influenza, MRSA, animal health and foodborne disease. More than 40 politicians attended, alongside expert microbiologists.

New careers literature, designed to be attractive to modern teenagers, is now available and recent schools resources include a pack on 'Microbes and Disease' and a factfile on 'Bioluminescence'. Plant microbiology was the focus of the SGM stand at the Chelsea Flower Show in May. Ten delegates from different FEMS societies attended the training course in schools microbiology at Reading University in June, which is being co-sponsored by FEMS and SGM.

The plenary at the autumn meeting at Keele University covers 'Microorganisms and Earth Systems'. Full details are on the SGM website, [www.sgm.ac.uk](http://www.sgm.ac.uk).

Janet Hurst, SGM  
Deputy Executive Secretary



Politicians and microbiology experts at the SGM's 'Fighting Infection' meeting at the House of Lords, March 2005.

## Annual "Cortona" meeting

As a recurring tradition, the "Prokaryotes in Cortona" was held this year on March 31 and April 1. Conveniently located in central Italy, in the charming town of Cortona, the meeting has acted as a pole of attraction for Italian scientists working on bacteria with the help of molecular tools. This year there were 29 oral presentations, mostly from young students and postdocs, who presented their work in applied microbial ecology, bacterial genetics and a.o. molecular biology. Some impressive results were presented, a sign of the quality of research of this small community of Italian scientists. In keeping with an added flavour of European science, pleasantly introduced a few years ago, there was also a presentation by Anke Becker, from Bielefeld, on "Postgenome approaches to *Sinorhizobium meliloti*: a model for nitrogen-fixing endosymbiotic soil bacteria".

Immediately after the Prokaryotes meeting, a symposium on the "Origin of life" followed in the same site. The latter was opened by a poignant, fascinating and entertaining speech by Antonio Lazcano from Mexico City.

Cortona offers a relaxing atmosphere, relatively inexpensive food and lodging, and a chance of exercise on its steep roads as scientists climb their way up from the meeting venue to coffee

shops and restaurants. The policy of the Cortona meeting, with no registration fee, last minute additions to the program, fully open access, all managed through the impeccable organisation by Marco Bazzicalupo (University of Florence), makes a stop in Cortona in early spring an opportunity to talk science and see friends for many of us.

Dr Stefano Donadio  
Italian Society of General Microbiology  
and Microbial Biotechnologies



The Danish Microbiological Society was involved in preparing the settling of the FEMS-Jensen Award (see page 7 of this circular). Here Drs Gram, Mortensen, Wessels and Raspor (Slovenia) met at the preparatory stage in 2004.

### ANNOUNCEMENT

## Joint symposium between the Society of General Microbiology (UK) and the Norwegian Microbiology Societies

*Fighting infection: challenges and recent advancements in microbiology*

September 27–30, 2005  
Bergen, Norway

The official language of the conference will be English.

The symposium will reflect aspects of medical and veterinary microbiology of importance today. It will cover new and re-emerging infections of man and animals, including current status reports on influenza, tuberculosis, TSEs, meningococcal and enteric diseases and new and exotic viruses. Keynote presentations will feature recent research findings in epidemiology, diagnostics and vaccine development. International experts will also address the crisis in public health concerning antimicrobial and antiviral resistance and progress in the development of new, effective compounds. Appropriately for the venue, marine microbiology, fish diseases and their prevention by vaccination have also been identified as a special topic.

Provision of education and training for future generations of microbiologists is a subject of international concern. Is microbiology losing ground in educational and research opportunities? The meeting will offer an international exchange of views and hopefully identify some ways forward.

The meeting will be held in the historic and beautiful city of Bergen in the fjord and mountainous region of western Norway. The venue is to be the Radisson SAS Royal Hotel in the 'Bryggen' harbour area. This UNESCO World Heritage Site is graced by many old, picturesque merchant houses from the 16th century Hanseatic fish and timber trade. Bergen is convenient for travel to and from the UK by air and sea and is well placed for tourist excursions and culture.

Provisional programme is found at the website of the societies, i.e. [www.nfmikro.net](http://www.nfmikro.net) and [www.sgm.ac.uk](http://www.sgm.ac.uk).

Organisers:  
Prof. Lars Haarr, Norwegian Society for Virology  
Dr Geoffrey Schild, SGM (UK)

# Gerhard Henrik Armauer Hansen (1841–1912), the discoverer of the lepra bacillus



Gerhard Henrik Armauer Hansen (1841–1912).

Gerhard Henrik Armauer Hansen's discovery of the *Mycobacterium leprae* was historic for reasons beyond its significance to the fight against leprosy. As the first identification of a bacterium as the causative agent of human disease, his study was a precursor to Robert Koch's conclusive

demonstration of the bacterial cause of anthrax three years later. Hansen was unable to cultivate the leprosy bacillus in vitro as an experimental confirmation of his hypothesis. This has still not been done, and this is the reason why it has not been possible to develop a vaccine. His research helped to establish fundamental principles in immunology, bacteriological medicine and public health policy.

Gerhard Henrik Armauer Hansen, born on July 29, 1841, in Bergen, Norway, was the eighth of fifteen children. In 1859 Hansen had worked his way through the gymnasium and medical school. He began his medical studies at the University of Christiania (now Oslo). It was necessary for him to earn his own living while he was a student. He first taught at a girl's school and later spent a year as substitute for the prosector in anatomy. He then began his own tuition courses in anatomy. He passed his degree with honours in 1866, having already proved himself as an exceptional research talent. He completed his internship at the National Hospital in Christiania (Rikshospitalet). He then served as doctor to a fishing community of some 6,000 inhabitants at Lofoten, a string of islands off northern Norway.



In 1868 Hansen returned to his native town Bergen, the centre for Norwegian leprosy research. At that time the disease was still a social problem in Norway, with some 3,000 patients for whom 800 nursing places were reserved. In Bergen alone there were no less than three lepra hospitals. Here Hansen entered service at the "Pleiestiftelsen for spedalske nr 1". He soon moved on to the position of assistant physician at the Lungegaardshospitalet led by Dr. Daniel Cornelius Danielssen. With C.W. Boeck Danielssen in 1847 they published the major work Om Spedalskhed

(On Leprosy) (Neisser, 1880). His efforts in organizing Bergen's leprosy care program have helped to establish Bergen as the European centre for research on leprosy. Danielssen was the foremost authority in the clinical and pathological aspects of the disease but, like other investigators of the time, regarded the affliction as hereditary, a belief he continued to hold even after Hansen's discovery. Many physicians believed the disease to be caused by miasma.

Hansen quickly concluded on the basis of epidemiological studies that leprosy was a specific disease that must have a specific cause, not an inheritable plague holding man hostage. He was convinced that a bacterium carried the disease from person to person; a daring speculation at the time when the concept of contagion was still poorly understood, and no one had shown that bacteria could cause human diseases.

However, his relationship with Danielssen improved, and Hansen was able to begin his research, comprising both experimental and epidemiological efforts. In his first work of 1869, published in Norwegian only in 1871, Hansen among other things described the appearance of leprosy changes in lymphoid tissue. Here Hansen applies the term "infectionsstoff" ("infectious substance") for the changes he saw in association with lymph nodes. He was, however, very uncertain about what these findings really meant. His poor equipment complicated his work, and he was unsuccessful in his attempts to cultivate and stain the changes.

In 1870 a grant allowed Hansen to travel to Bonn and later to Vienna for advanced training in histopathology. Upon return to Norway, using primitive staining methods and biopsy specimens from patients with leprosy, Hansen continued his intensive microscopy work. Back in Bergen in 1871 Hansen launched his search for the causative agent of leprosy, using biopsy specimens drawn from patients. In every nodule he saw rod-like bodies inside cells that looked like bacteria; they were not present in all cells, but in most of them. At first he was unable to see rods in patients with tuberculoid leprosy, but after prolonged studies he found them there also. He could not see any difference between these bodies and true bacteria, but hedged on claiming they were actually identical.

In 1873, aged 32 years, he discovered the rod-shaped bodies, *Mycobacterium leprae*, sometimes called Hansen's bacillus, in leprosy nodules. This epoch-making discovery was published in his major work of 88 pages that year. Most of his colleagues and physicians elsewhere laughed. Hansen, they said, may have seen these bodies in tissues, but it did not

mean they caused disease. However, they did.

His findings were also published in English in an abridged edition. His description of the findings is rather careful: *"Though unable to discover any difference between these bodies and true bacteria, I will not venture to declare them to be identical."*

By 1879 he was able, through the use of improved staining methods, to show great numbers of the rod-shaped bodies typically aggregated in parallel cells. He believed the bacillus to be the causative agent of leprosy and thereby became the first investigator to suggest that microorganisms might cause a human disease. The tuberculosis bacillus, for example, was not discovered until 1882.

## The Neisser-Hansen conflict of priority

In the beginning of 1879, a German bacteriologist, Albert Neisser, then 24 years old, visited Hansen while on a research trip to Norway to study leprosy. Neisser was able to examine more than 100 patients with leprosy in Trondheim, Molde and Bergen. From Hansen he received preparations made from lepra node in which unstained rods were just recognizable.

### Hansen's disease:

A chronic infectious disease caused by *Mycobacterium leprae*, and characterized by granulomatous lesions of the skin, mucous membranes, peripheral nervous system, and bones.

Back home in Germany Neisser was able, in a very convincing way, to stain the bacteria, and found, in almost all cases, "bacilli as small, thin rods, whose length amounts to about half the diameter of a human red blood-corpuscle and whose width I estimate at one-fourth the length". Neisser did not hesitate to publish his results, without first contacting Hansen, in the paper "Über die Aetiologie des Aussatzes" (1880). In a paper Neisser writes: *"Having quickly returned home with this wealth of material, I immediately began to study it, and to my intense surprise found bacilli in large numbers . . . These rods appeared to be something previously unknown . . . The singularity of their appearance awakened the hope that further investigations might bring light to an obscure question."*

At the same time, in Bergen, Hansen, with the help of new methods, also succeeded in staining his preparations.

In the following year, 1881, Neisser published the article "Weitere Beiträge zur Aetiologie der Lepa in Virchows Archiv", in which he claimed the honour of discovering a microbe that caused disease, and sought to discredit Hansen. There is no doubt



that Neisser intended to steal Hansen's discovery, and might well have succeeded.

However, the Norwegian reaction to Neisser's behaviour was indignation, particularly because the term Neisser's bacteria was soon in use. Encouraged by his colleagues, Hansen defended his position, though without entering into a direct polemic. Instead, he summarized his findings from the beginning of the 1870s and published them in Norwegian, German, English, and French. He described Neisser's visit to Bergen, and stated firmly that he was making the report to maintain his priority, and bring his work up-to-date. The conflict proved to be long-lasting, and it was not until the lepra congress in Berlin that Hansen was officially recognized, in an international context, as the true discoverer of the lepra bacillus. It is clear, however, that while Hansen first discovered the leprosy bacillus, Neisser was the first to identify it as the etiological agent of the disease. The aetiology, diagnosis, and prophylaxis of leprosy occupied Neisser for much of his subsequent career.

The fault was not Hansen's. Unlike most bacteria causing human diseases, scientists have been unable to culture *Mycobacterium leprae* on artificial culture media. This was true in 1879 and is still true today. Hansen was also unable to infect rabbits. It would be almost 100 years before Polly's armadillos would supply the animal host and bountiful supply of bacilli that Hansen had needed. His failure to grow the bacillus or infect rabbits had bitter consequences. In a poorly-advised effort, Hansen inoculated the eye of a woman suffering from a neural form of the disease with material drawn from a leprous nodule of a patient suffering from the cutaneous form. There were no clinical consequences of the inoculation, but the woman claimed it was painful and impaired her sight. She took her case to court. According to the records of the city of Bergen Law Courts, May 31, 1880:

*"He did not succeed in inoculating the*

*material into the eye, as she did not keep the eye still. One of the other doctors . . . calmed down the despondent and placed her in a chair. It was then possible to carry out the operation, placing the material from the cataract knife under the conjunctiva of the eye . . . The defendant . . . admitted that he had neither obtained her permission in advance, nor told her of his aim in doing it."*

The defendant then explained his motives for this unjustified operation. He said that he had failed in his attempts to infect animals. Thus he could not prove that his rod-shaped bacilli caused leprosy; so he could not quarantine patients to protect the people of Bergen. The court found him guilty. Hansen had to pay costs, and was removed from his post as resident physician of the Bergen Leprosy Hospitals in May 1880. After the trial he made no major contributions to research.

Hansen's sentence was less severe than it might seem, however, since he was allowed to retain his position as leprosy medical officer for the entire country of Norway – an appointment conferred on him in 1875 and one that held until his death. He was thus able to implement changes in the methods of control of leprosy in Norway – changes that had been in part made necessary by his own hypothesis concerning the aetiology of the disease. The Norwegian leprosy act of 1877 and the amended act of 1885 were the fruits of his untiring work. Under these laws health authorities could order lepers to live in precautionary isolation away from their families (subsequent studies have shown leprosy to be a familial affliction); enforcement of the law led to a quick and steady decline of the disease in Norway. There were 1.752 known cases of leprosy

in Norway in 1875; by the beginning of the twentieth century there were 577. The last outbreak in Norway was in the 1950s. During the last five years of the twentieth century four cases were reported in immigrants from other parts of the world, and there are now 1–2 such cases each year. This, however, is the tubercleoid form, which is generally a skin disease and not contagious. All cases having been treated, there is presently nobody with the chronic form of lepra in Norway. The word «hansenarium» was suggested to replace the still more standard «leprosarium».

Hansen suffered the first symptoms of heart disease as early as 1900. In the following years he had several severe heart attacks that confined him to bed for long periods of time. In the intervals of his illness, however, he continued to travel around the country on official inspection tours. In February 1912 he made such a trip to the fishing areas north of Bergen. In Florø, a little town on the western coast, he was invited to stay in the home of a friend, and this was the place he died. He was given a funeral at state expense; he had been president of the Bergen Museum and the ceremony took place from its hall.

Ole Daniel Enersen  
Whonamedit.com  
Nedre Slottsgate 5  
N-0157 OSLO Norway

*D. C. Danielssen, C. W. Boeck (1847) Om Spedalskhed. Christiania. With atlas. 516 pages.*

*Albert Neisser (1880) Über die Ätiologie des Aussatzes. Jahresbericht der Schlesischen Gesellschaft für Vaterländische Kultur, Breslau; 57: 65–72.*

## CENTRAL OFFICE

### Mutatis mutandis

Management of change would well characterise the activities over the first months of this year. Major decisions as to a new operational structure had been taken in the latter half of 2004, but the implications of those decisions had to be worked out in practice. Especially financial issues required a lot of attention. The overall aim was to set-up a transparent and manageable operation for all directors involved.

As from this year's Council, all grant-associated tasks, currently the responsibility of the Meetings Secretary and the Member at Large, will be joined together under the responsibility of a single Grants Secretary, Dr Vaso Taleski. With the support of experienced administrative staff, consisting of Ms Bong-Yeo Venema as office assistant and Ms Iliana Yocheva as grants administrator, this change is not likely to lead to any disruption of activities.

We are also looking towards an exciting phase in the development of the Federation: with the aim to assess the feasibility of new activities that will foster the development

of European microbiology. Plans are in hand to discuss avenues for future policy development.

The transfer of the five journals from Elsevier to Blackwell Publishing has started, i.e., we are settling the new lay-out and design of the journals and are preparing the essentials for the early online publication in Summer 2005 and the first print issues to be published in January 2006.

Dr Diman van Rossum & Wilma van Wezenbeek



FEMS staff in December 2004. From left to right: Guus ten Hagen, Martha Pelkman, Iliana Yocheva, Bong-Yeo Venema, Diman van Rossum, Montserrat Blázquez-Domingo, Alenka Prinčič, Wilma van Wezenbeek, Gillian van Beest, Qing van Rossum (not staff), and Colin Davey.

### Lepraarkiva

**Norsk inngang**

Lepraarkiva i Bergen er 28. juni 2001 kommet inn på UNESCO si liste *Memory of the World*, og i samband med dette legg vi no ut på internett katalogar, dokument, bilde og forskingsmateriale som gjeld desse arkiva.

Arkiv speglar verda og vår kollektive hukommelse. Men denne hukommelsen er sårbar, og kvar einaste dag går uerstattelige bitar tapt. Programmet *Memory of the World* skal sikte på å

**English entry**

June 28, 2001 the Leprosy Archives of Bergen were elected to the UNESCO register *Memory of the World*, and due to this fact we now publish on the internet selected documents, inventories, pictures and studies relating to these archives.

Documentary heritage is the mirror of the world and its memory. But it is

Presten viser bort ein spedalsk. Jfr. 3. Mosebok  
Kunstnar: Gustave Doré.  
Henta frå Illustrert Bibelskalkon, bd. 6, 1907.

The priest sends the leper away. Ref. Leviticus  
Artist: Gustave Doré.  
From: Illustrert Bibelskalkon, bd. 6, 1907.

The lepra archives of Bergen (<http://digitalarkivet.uib.no/lepraarkiv/>), were elected in 2001 to the UNESCO register *Memory of the World*.



## CENTRAL OFFICE

### FEMS Central Office

Keverling Buismanweg 4  
2628 CL Delft  
The Netherlands  
T: +31-15-269 3920  
F: +31-15-269 3921  
E: fems@fems-microbiology.org

### FEMS Registered Office

Marlborough House  
Basingstoke Road  
Spencers Wood  
Reading RG7 1AG  
United Kingdom  
T: +44-118-988 1823  
F: +44-118-988 5656  
E: office@fems.org.uk

FEMS is devoted to the promotion of microbiology in the European area.

## EXECUTIVE COMMITTEE



### FEMS President Dr Eliona Z. Ron

Faculty of Life Sciences, Tel-Aviv University  
PO Box 39040, Tel-Aviv, 69978, Israel  
T: +972-3-640 9379  
F: +972-3-641 4138  
E: eliora@post.tau.ac.il



### FEMS Vice President Dr Milton S. da Costa

Departamento de Bioquímica, Universidade de Coimbra  
Coimbra, 3001-401, Portugal  
T: +351-23-982 4024  
F: +351-23-982 6798  
E: milton@ci.uc.pt



### FEMS Secretary General Dr Peter Raspor

Dept of Food Science and Technology, Biotechnical Faculty,  
University of Ljubljana  
Jamnikarjeva 101, Ljubljana, SI-1000, Slovenia  
T: +386-1-423 1161  
F: +386-1-257 4092  
E: peter.raspor@bf.uni-lj.si



### FEMS Treasurer Dr Maurice A. Lock

School of Biological Sciences, University of Wales,  
Bangor, Gwynedd, LL57 2UW, United Kingdom  
T: +44-1248-382 310  
F: +44-1248-370 731  
E: m.a.lock@bangor.ac.uk



### FEMS Publications Manager Dr John C. Fry

Cardiff School of Biosciences, Main Building, Cardiff University  
(Museum Avenue) P.O. Box 915, Cardiff, Wales, CF10 3TL,  
United Kingdom  
T: +44-29-2087 4190  
F: +44-29-2087 4305  
E: fry@cardiff.ac.uk



### FEMS Meetings Secretary Dr Richard Braun

BioLink  
(Schulweg 14) Postfach 208, Bern 11, 3000, Switzerland  
T: +41-31-832 0000  
F: +41-31-832 0000  
E: rdbraun@bluewin.ch



### FEMS Member at Large Dr Godfried D. Vogels

Dept of Microbiology & Evolutionary Biology, Faculty of Science,  
Katholieke Universiteit Nijmegen  
Toernooiveld 1, Nijmegen, 6525 ED, Netherlands  
T: +31-24-365 3390  
F: +31-24-365 2830  
E: fvogels@sci.kun.nl



### FEMS Co-opted Executive Committee member Dr Jean-Claude Piffaretti

Istituto Cantonale di Microbiologia  
Via Mirasole 22A, Bellinzona, 6501, Switzerland  
T: +41-91-814 6031  
F: +41-91-814 6029  
E: jean-claude.piffaretti@ti.ch

FEMS Publications Manager-Elect  
FEMS Grants Secretary-Elect

Dr Fergus G. Priest  
Dr Vaso Taleski

## COLOFON

Chief Editor: Prof. Dr Peter Raspor / Managing Editor: Wilma van Wezenbeek  
Editorial input: Dr Alenka Princič / Editorial assistance: Bong-Yeo Venema

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## MEMBER SOCIETIES

### FULL MEMBERS (NATIONAL)

**Austria** Österreichische Gesellschaft für  
Hygiene, Mikrobiologie und Präventivmedizin  
(<http://www.oeghmp.at>)  
Dr Gerold Stanek  
gerold.stanek@meduniwien.ac.at

**Belgium** Belgische Vereniging voor  
Microbiologie / Société Belge de  
Microbiologie  
Dr Jozef Anné  
jozef.anne@rega.kuleuven.ac.be

**Bulgaria** Bulgarian Society for Microbiology  
(Union of Scientists in Bulgaria)  
Dr Angel S. Galabov  
galabov@microbio.bas.bg

**Croatia** Hrvatsko Mikrobiolosko Društvo  
(<http://www.hmd-cms.hr>)  
Dr Danko Hajsig  
danko.hajsig@pliva.hr

**Denmark** Danmarks Mikrobiologiske Selskab  
Dr Gregers J. Gram  
gig@ssi.dk

**Estonia** Eesti Mikrobioloogide Ühendus  
Dr Tiina Alamäe  
talamae@ebc.ee

**Finland** Societas Biochemica, Biophysica et  
Microbiologica Fenniae  
(<http://www.biobio.org>)  
Dr Benita Westerlund-Wikström  
benita.westerlund@helsinki.fi

**France** Société Française de Microbiologie  
(<http://www.sfm.asso.fr>)  
Dr Alain Le Faou  
a.lefaou@chu-nancy.fr

**Germany** Deutsche Gesellschaft für Hygiene  
und Mikrobiologie (<http://www.dghm.org/>)  
Dr Karl-Heinz Schleifer  
schleife@mikro.biologie.tu-muenchen.de

**Germany** Vereinigung für Allgemeine und  
Angewandte Mikrobiologie e.V.  
(<http://www.vaam.de>)  
Dr Bernhard Schink  
bernhard.schink@uni-konstanz.de

**Greece** Hellenic Society of Microbiology  
Dr Anastasia P. Pangalis  
micro@paidon-agnasofia.gr

**Hungary** Magyar Mikrobiológiai Társaság  
Dr Janos Minarovits  
minimicrobi@hotmail.com

**Iceland** Örfurafélag Íslands  
(<http://www.hi.is/fel/orveruf/english.html>)  
Dr Kristín Jónsdóttir  
krijons@landspitali.is

**Ireland** Irish Society of Clinical  
Microbiologists  
Dr Olive Murphy  
omurphy@cork.bonsecours.ie

**Israel** Israel Society for Microbiology  
(<http://ism.md.huji.ac.il>)  
Dr Shlomo Rottem  
rottem@huji.ac.il

**Italy** Associazione Microbiologi Clinici Italiani  
(<http://www.amcli.it>)  
Dr Daniela Marchetti  
daniela.marchetti@ausl.bologna.it

**Italy** Società Italiana di Microbiologia  
(<http://www.societasim.org>)  
Dr Gianfranco Donelli  
donelli@iss.it

**Italy** Società Italiana di Microbiologia  
General e Biotecnologie Microbiche  
Dr Giancarlo Lancini  
glancini@vicuron.it

**Italy** Società Italiana di Virologia  
(<http://www.siv-virologia.it>)  
Dr Giorgio Palù  
giorgio.palu@unipd.it

**Latvia** Latvijas Mikrobiologu Biedrība  
Dr Alexander Rapoport  
rapoport@mail.eunet.lv

**Lithuania** Lithuanian Society of Medical  
Microbiology  
Dr Alvydas Pavilonis

**Macedonia** Združenie na Mikrobiolozi na  
Makedonija  
Dr Elena T. Dokic  
elenatd@hotmail.com

**Netherlands** Nederlandse Vereniging voor  
Microbiologie  
(<http://www.nvnm-online.nl>)  
Dr Bauke Oudega  
oudega@bio.vu.nl

**Norway** Norsk Forening for Mikrobiologi  
(<http://www.nfmikro.net>)  
Dr Gudmund Holstad  
gudmund.holstad@veths.no

**Poland** Polskie Towarzystwo Mikrobiologów  
Dr Stefan Tyski  
tyski@il.waw.pl

**Portugal** Sociedade Portuguesa de  
Microbiologia  
(<http://www.spmicrobiologia.pt>)  
Dr Isabel Spencer-Martins  
ism@fct.unl.pt

**Romania** Societatea Romana de  
Microbiologie  
Dr Marian Negut  
mnegut@cantacuzino.ro

**Russia** Rossiiskoe Mikrobiologicheskoe  
Obshchestvo  
Dr Vladimir V. Ignatov  
ignatov@ibppm.sgu.ru

**Slovenia** Slovensko Mikrobiološko Društvo  
(<http://www.bfro.uni-lj.si/gost/smd>)  
Dr Ales Gasparic  
ales.gasparsic@krka.biz

**Spain** Sociedad Española de Microbiología  
(<http://www.semicro.es/>)  
Dr Carlos Hardisson-Renueu  
chr@uniovi.es

**Sweden** Svenska Föreningen för Mikrobiologi  
Dr Per-Eric Lindgren  
perl@imk.liu.se

**Switzerland** Société de Suisse de  
Microbiologie / Schweizerische Mikrobiologie  
Gesellschaft  
(<http://www.swissmicrobiology.ch>)  
Dr Dieter Haas  
dieter.haas@imf.unil.ch

**Turkey** Türk Mikrobiyoloji Cemiyeti  
Dr Özdem Ang  
ozdem.ang@superonline.com

**United Kingdom** Association of Medical  
Microbiologists (<http://www.amm.co.uk>)  
Dr Roland J. Koerner  
roland.koerner@chs.northy.nhs.uk

**United Kingdom** British Mycological Society  
(<http://www.britmycolsoc.org.uk>)  
Dr Paul S. Dyer  
Paul.Dyer@nottingham.ac.uk

**United Kingdom** Society for Applied  
Microbiology (<http://www.sfam.org.uk>)  
Dr Peter Silley  
p-s@mbconsult.co.uk

**United Kingdom** Society for General  
Microbiology (<http://www.sgm.ac.uk/>)  
Dr George P.C. Salmond  
gpsc@mole.bio.cam.ac.uk

**United Kingdom** Scottish Microbiology  
Society (<http://www.scottish-microbiology.org.uk/>)  
Dr Graeme M. Walker  
g.walker@abertay.ac.uk

### FULL MEMBERS (Multi National)

**Czech Republic & Slovakia** Československá  
Společnost Mikrobiologická  
(<http://www.cssm.cz/>)  
Dr Jaroslav Spizek  
spizek@biomed.cas.cz

**Serbia & Montenegro** Društvo Mikrobiologa  
Jugoslavije  
Dr Dragojlo Obradovic  
dobrad@eunet.yu

**Global** International Biodeterioration and  
Biodegradation Society  
(<http://www.biodeterioration.org>)  
Dr Fernando Laborda  
fernando.laborda@uah.es

### PROVISIONAL MEMBERS

**Belarus** Belarusian Scientific Medical Society  
of Microbiologists, Epidemiologists and  
Parasitologists  
Dr Leonid P. Titov  
titov@briem.ac.by

**Russia** Interregional Association for  
Clinical Microbiology and Antimicrobial  
Chemotherapy  
(<http://www.microbiology.ru/iacmac>)  
Dr Leonid S. Stratchounski  
iacmac@microbiology.ru

**Ukraine** Society of Microbiologists of Ukraine  
Dr Andrei A. Sibirny  
sibirny@biochem.lviv.ua

**German-Speaking Countries** Gesellschaft für  
Virologie (<http://www.g-f-v.org>)  
Dr Otto Haller  
haller.office@ukl.uni-freiburg.de

**Europe** European Society for Clinical  
Virology (<http://www.esvcv.org>)  
Dr Annika Linde  
annika.linde@smi.ki.se

**Global** Society for Anaerobic Microbiology  
(<http://www.shef.ac.uk/~sam/index.html>)  
Dr Jon S. Brazier  
brazier@cardiff.ac.uk

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