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**Central Office moved!
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Dear respected microbiologist,

The year 2003 was for our Federation of European Microbiological Societies and for each member society a special year. After many years we had, for the first time, an opportunity to gather and to discuss microbiological issues in one place.



Tatjana Avšič Zupanc, Peter Raspor and Vincent Reubel receive the award of DI Ivanovskiy Institute of Virology.

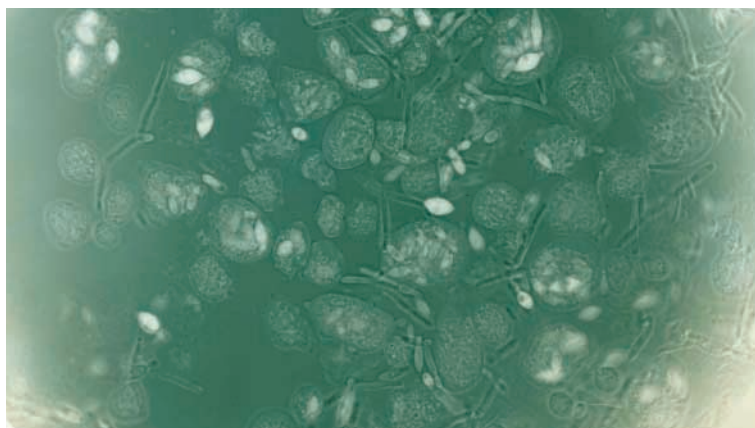
We brought to Ljubljana, at the 1st FEMS Congress, microbiologists practically from all European countries (with the exception of Albania) and also from some distant countries around the globe. We shook hands with 1378 registered participants and 50 accompanying persons from 42 European countries and also 29 non-

European countries, representing all continents of the world. In addition there were approximately 150 guests at different events. In total 149 young microbiologists received Attendance Grants via INTAS, INCO and UNESCO and also FEMS.

Three congress participants got at the Virology symposia the award of DI Ivanovskiy Institute of Virology, Russian Academy of Medical Sciences (Tatjana Avšič Zupanc, Vincent Deubel and Peter Raspor). FEMS gave two recognition awards (Lex Scheffers, and Slovensko Mikrobiološko Društvo) and during the special FEMS Lwoff session Sir David A. Hopwood received the FEMS Lwoff Award.

The Declaration of microbiology, which became public at the congress, is providing an excellent tool for evaluating the state of the art in the

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Glass negative showing *Amoeba aceti* consuming *Saccharomyces apiculatum* (microbial names as given on the negative). The photograph was taken around 1897 by an unknown photographer, and is part of the Delft Microbiology Archive. For more information see <http://www.beijerinck.bt.tudelft.nl>. (With thanks to Dr Lesley A. Robertson CBIol, Curator of the Archive.)

FEMS Meetings Calendar

2004

**International Conference
on Arctic Microbiology**

2004 March 22–25
Rovaniemi, Finland

**Development of Biocontrol
Agents on Fungal Diseases
for Commercial
Applications in Food
Production Systems**

2004 March 24–27
Sevilla, Spain

**Physiology of Yeast and
Filamentous Fungi**

2004 March 24–28
Anglet, France

**Genomes 2004:
International Conference
on the Analysis of
Microbial and Other
Genomes**

2004 April 14–17
Hinxton, United Kingdom

**European Symposium on
Environmental
Microbiology (ESEB 2004)**

2004 April 25–28
Oostende, Belgium

**4th INRA-RRI Symposium
on Gut Microbiology:
Concerns and Answers to
Food Safety, Health, and
Environment**

2004 June 21–23
Clermont-Ferrand, France

**6th International
Conference on Toxic
Cyanobacteria**

2004 June 21–27
Bergen, Norway

**8th Avian Immunology
Research Group Meeting**

2004 September 4–7
München, Germany

Continued on page 2

different areas of microbiology and the impact of science on society in general. The 31 companies, which participated at the Trade Fair during the congress, were much appreciated by the participants since new techniques and equipment as well as literature was presented.

FEMS currently links 46 microbiological societies. When strategic activities for the 1st FEMS Congress started in 2001 under the FEMS umbrella there were 38 societies. We are honoured that our organisation is attracting new societies. This congress also reflected cultural and professional diversity and richness of geographical Europe. The organisers received dozens of letters of thanks and admiration for this first event on a pan-European scale.

Maybe the following thoughts most adequately express the feelings:

"...Just a quick note to express again my congratulations on a terrific Congress. The members of the ASM contingent enjoyed themselves very much – first, the science was outstanding and second, if it is at all possible, the hospitality was more outstanding. Your choice of Ljubljana for the Congress site was inspired! I am determined to return and see more of this wonderful country.... Anne Morris Hooke."

"....It was a pleasure to participate. You and your crew did a fantastic job. Ljubljana and Slovenia offer a really nice atmosphere for such meetings. I was also impressed by the European dimension of the whole event.... Friedrich Widdel"

"....I would like to take this opportunity and thank you for your time and help, and also the chance that FEMS gave me to present my work in such a prestigious congress. ...Panos Papapanagiotou"

"....The reception for FEMS Grant Awardees was a nice idea. I felt touched to meet all the people who made us available to take part on such a big well organized international congress.... Katalin Perkátai"

"....I firmly believe that research in microbiology can play a leading role in the current Sixth Framework Programme for Research and Technological Development, both in Life sciences, Genomics and Biotechnology for Health and Food Quality and Safety fields... Philippe Busquin"

It might be that not all was perfect, but you may trust that the organisers put a lot of effort into this important European event. However, without participants this would not have been an event. We have put in motion a European spirit of microbiology with this 1st congress and we are looking forward to the 2nd FEMS congress in Spain.



Prof. Dr Peter Raspor, Dr h.c.
President of the Organising Committee
of the 1st FEMS Congress of European Microbiologists



Prof. Dr Peter Raspor, Dr h.c.

2004

Halophiles 2004 International Conference on Halophilic Micro-organisms

2004 September 4–8
Ljubljana, Slovenia

Recombinant Protein Production: A Comparative View on Host Physiology

2004 November 11–14
Algarve, Portugal

Acinetobacter 2004

2004 September 15–17
Dublin, Ireland

Full information on these meetings at:
www.fems-microbiology.org
> Events > FEMS Meetings

Grant Applications

Applications for *Research Fellowships* 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 submitted to the FEMS Delegate of a society in the country where the meeting takes place for approval. 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.

Management and Control of Undesirable Microorganisms

September 15–18, 2003
Manchester, United Kingdom

IBBS are indebted to Jo Verran and her co-organisers, Malcolm Greenhalgh, John Gillatt and Brian McCarthy, for organising the 2003 joint IBBS/IBRG meeting "Management and Control of (undesirable) Microorganisms" from September 15–18, 2003 at the Manchester Metropolitan University. Generous sponsorship from FEMS, Avecia, Thor, Akros Chemicals and Akzo Nobel allowed a number of young scientists to attend our meeting including Dr R. Venkatesan from India, Mr Renat Khaydarov from Uzbekistan and Dr Irina Ryzhikova from Russia. Sadly, only weeks before the meeting, our Editor-in-Chief of IBB, the late

Harold Rossmore, passed away on July 28, 2003. Harold was not only a respected professional colleague and mentor, but he was also a great personal friend to many of us. Harold was one of the founding members



Young IBBS scientists attending the meeting.

of IBBS and IBRG; his energy and enthusiasm, despite his recent illness, was always infectious. We will all miss him. At the AGM, held during the meeting, I stood down after my three-year term as President and I wish the new President, Professor Hans Curt Flemming, great success for the society in his new role. I wish to thank all the Council appointees and IBBS members for their support over the last three years and also to thank FEMS for their generous sponsorship that enabled many of our young IBBS Scientists to attend our meetings.

Dr Jimmy Walker, Immediate Past President of the International Biodeterioration and Biodegradation Society

Central European Symposium on Antimicrobial Resistance (CESAR 2003)



Part of the audience of CESAR 2003 on Brijuni Islands.

July 4–7, 2003
National Park Brijuni, Croatia

Over 200 participants attended CESAR 2003, a scientifically and socially interesting event, organised by Austrian, Czechoslovak, Hungarian, Slovenian and Croatian microbiological societies, and hosted by the Croatian Microbiological Society. The participation of speakers from more than twenty European countries contributed to up-to-date information on various aspects of the development and spread of antimicrobial resistance.

During the Symposium a meeting of FEMS representatives and Central European societies delegates was held to investigate closer regional collaboration. The next CESAR meeting (CESAR 2006) will be held in High Tatras and be organised by the Czechoslovak Society for Microbiology.

Dr Ljiljana Pinter
President Croatian Microbiological Society

OPINION

The global microbial resource centre changes policy on microorganism distribution

Recent developments in microbiology at the international level have exposed the vast diversity and importance of microorganisms. The notion that microorganisms play a key role in the functioning of ecosystems has become an accepted fact among experts. An essential part of microbiology is access to reliable microbial resources, beneficial not only for microbiology science, but also for mankind.

The aim of establishing culture collections, starting with the work of Kral in Prague, has been to preserve and distribute microbial material. For decades scientists have entrusted their strains to such collections with the understanding that these organisms be maintained and distributed by these bodies. Organisations such as World Federation of Culture Collections (WFCC), European Culture Collections' organisation (ECCO), and United Kingdom Federation of Culture Collections (UKFCC) have been set up in support of this goal. During the past two decades topics such as the Convention on Biological Diversity (CBD, <http://www.biodiv.org/>) and intellectual property rights have increased their profile in microbiology. Culture collections have begun a delicate balancing act between conforming to such requirements and meeting the needs of microbiologists in supplying the cultures. Various types of material transfer agreement are implicit when a strain is ordered from a culture collection. These may include limitation of liability clauses and also additional restrictions on strain usage. While such clauses/restrictions are unavoidable, their scope may differ among collections. Hence, recent developments at the American Type Culture Collection (ATCC), which indicate a change in policy on strains held and

distributed by this global microbial resource centre, cause some concern.

ATCC's access to material is regulated with the Material Transfer Agreement (<http://www.atcc.org/Order/mta1.cfm>, last updated September 8, 2002), which states that "You may make and use the material provided to you by ATCC and all replicates and derivatives for research purposes in

for any reason." While this shows there is apparent concern of the global microbiological community that certain strains may find their way into the wrong hands, it also shows that extra restrictions are placed on these cultures, which can give false impression of "intellectual ownership". Research nowadays uses complex techniques so that virtually no laboratory can perform all possible experiments.

Co-operation among laboratories at national or international level is essential and would be severely hindered if the same cell material needs to be studied. Unfortunately, it is not uncommon practice to send to colleagues a strain obtained from a culture collection without charge and still bearing the culture collection number. Such use of culture collection numbers does not accurately reflect the source or the history of the strain. Instead, it wrongly implies that the culture collection supplied the strain. Not surprisingly, the culture collections do not endorse such actions since they face a loss in revenue. Then again, they may be made accountable for strains, which they have not supplied.

The ATCC has also started to apply a second form of agreement between itself and other culture collections, that is the Material Transfer Agreement for Culture Collections (last updated on August 6, 2003), which states that "The Collection shall not distribute, sell, lend or otherwise transfer the material or replicates for any reason, unless to non-for-profit institutions exclusively in his/her country and for research purposes only" and that "The Collection agrees to forward all requests of material, replicates and derivatives by for-profit institutions and by any institution located in foreign countries to ATCC."

Continued on page 4



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- Forms
- Permits
- Discounts

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Material Transfer Agreement
Last Updated September 8, 2003

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<http://www.atcc.org/Order/mta1.cfm>18-12-2003

your own laboratory only" and that "The purchaser shall not distribute, sell, lend or otherwise transfer the material or replicates

profit institutions and by any institution located in foreign countries to ATCC."

FEMS Circular 55 (January 2004), page 3

This agreement is different from the past policy of ATCC and now effectively hinders the transfer of strains between the ATCC and other internationally recognised service collections. The consequences are particularly significant for type strains. In



The European Declaration was signed on June 30, 2003 at the 1st FEMS Congress of European Microbiologists.

the past the Judicial Commission has, via the Bacteriological Code, striven to make all type material available to the scientific community as widely as possible. The strategy of depositing strains in two different service collections in two different countries was introduced to combat the growing restrictions on the distribution of type material based solely on economic grounds. The goal is to make the strains widely available, since they are the cornerstone of taxonomy and the "reference point" for the application of a taxonomic name. Minelli has pointed out the significance of taxonomic literature (*Trends in Ecology and Evolution* 18: 75–76), which may also be extended to type material, i.e. type strains. While the Judicial Commission has attempted to solve the problem of limited access to new type strains the same problem may relate to older type strains and even type strains transferred to new genera.

It would have been advantageous if the older type strains were held in more than one collection. Moreover, recent revisions of the Bacteriological Code would also imply that the type strain of an organism transferred to a new genus must be deposited in at least two collections. If the strain were held only in the ATCC, a second deposit would either not be possible, or at best not be widely available under the current policy. Is it not contradictory that H.C.J. Gofray is calling for an implementation of easily accessible biological resources via the web (*Nature* 417: 17–19), when the biological material itself may be difficult to obtain? GBIF (Global Biodiversity Information Facility, <http://www.gbif.org/>) and Species 2000 (www.sp2000.org) are but meaningless electronic databases if access to the biological resources themselves is restricted in such a fashion. The current policy of the ATCC is not yet widely known, nor has it been possible to fully assess the consequences. The opinions of individual culture collections and of the organisations such as the WFCC, ECCO, and UKFCC should be sought.

Various microbiological societies also need to be aware of these changes, since their members will eventually deposit microbial material in culture collections. Is it their intention that such restrictions be placed on strains which they will have isolated? In the recent "European Declaration for Microbiology" FEMS has taken a major step forward in communicating the importance of microbiology to human society. This declaration aims at stimulating debate on several issues including "support the understanding and preservation of microbial biodiversity, by research and the maintenance of a network of microbial culture collections" and "make certain that microbial genomic data are to be considered the heritage of all humanity and are available to all mankind".

If microbiology is to develop further the European scientific community must better appreciate biological resources and continue maintaining "reasonable" access to strains deposited by the researchers. Surely future microbiology cannot be advanced if work carried out in one laboratory is impossible to repeat should a strain not be available. Can complex scientific projects be carried out when co-operating laboratories have no way of supporting each other in carrying out experiments on the same batch of cell material? Perhaps the ATCC is not fully aware of the consequences? Could similar problems arise in culture collections within the European Union? The global microbiology community must become aware of not only the benefits, but also the problems, which may be associated with the Convention on Biological Diversity and material transfer agreements.

Public service culture collections were set up to serve the microbiological community and supported by public funding, but present changes imply that they may well become commercially orientated marketing units having as much interest in the products developed from the strains they hold as the original isolator. Is this the road to take, or should the OECD "Biological Resource Centre" concept better serve microbiology in future? Both depositors and end users should be aware that culture collections play a valuable role in the "conservation, sustainable use, and equitable benefit sharing" of microorganisms. However, this can only be achieved if there is an active dialogue among funding bodies, global microbiological community, and the service culture collections themselves. FEMS and its member societies are called upon to openly discuss this issue.

Dr Brian J. Tindall
 DSMZ, Braunschweig, Germany
 Vice Chairman of the ICSP Judicial Commission
 Convenor of the VAAM special group "Identification and Systematics"

YOUNG RESEARCHER'S CORNER

The very best three months in Freising



Rosica Valcheva

Rosica Valcheva worked from 1st May – 31st July 2003 in a German laboratory. She presently studies at the Department of Microbiology at the Faculty of Biology of the University of Sofia. The title of her fellowship report is: "Study of

lactic acid bacteria diversity in sourdough by Amplified Fragment Length Polymorphism".

"Irrefutably, the main aim of FEMS Grants for young scientists is to provide financial support for young microbiologists giving them the opportunity to work in competent labs with worldwide importance. Thus, directly and indirectly, FEMS stands up for the science development in countries where it is difficult to organise science. In the framework of one FEMS fellowship I had the chance to spend three months at the laboratory of Prof. Dr Rudi Vogel, Technical University of Munich, Freising. As a PhD student simultaneously in Bulgaria and France, I already had, in comparison with my Bulgarian colleagues, lots of advantages to perform my

experimental work in excellent conditions. But this training in Germany gave us (me personally and my supervisors) the possibility to meet scientists of world dimension in the bacterial taxonomy as well as in sourdough fermentations. That is why I appreciated my stay in Freising so much. My discussions with M. Gänzle and M. Ehrmann made my overview on the problems and topics in our field of Food Microbiology clearer. I also found a real friendship with my German colleagues. They were so open and natural and showed me that the German exactness is in fact in their human relations. I will keep very best souvenirs from these three months in Freising."

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Journals for Members

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1. Microbiol. Mol. Biol. R.	15.690	27	4.0
2. Annu. Rev. Microbiol.	13.981	30	8.2
3. Clin. Microbiol. Rev.	10.321	30	5.5
4. FEMS Microbiol. Rev.	9.597	25	6.0
5. Trends Microbiol.	6.665	75	3.9

From ISI Citation Reports for 2002: Selected Microbiology Journals.

Journal	IF2000	IF2001	IF2002
FEMS Microbiology Reviews	6.367	9.000	9.597
FEMS Microbiology Ecology	2.439	2.847	2.589
FEMS Microbiology Letters	1.615	1.806	1.804
FEMS Immunology and Medical Microbiology	1.244	1.561	1.779
FEMS Yeast Research			not yet available

Impact Factors 2000 – 2002 for FEMS Journals.



FEMS Microbiology Reviews continues to increase its impact!

FEMS Microbiology Reviews has for the third year running increased its impact on the scientific community. According to the latest figures published in ISI Journal Citation Reports, the Impact Factor of the journal has increased over 3 years from 4.21 to 9.60, making it the 4th most highly cited Microbiology journal for the second year running. The Chief Editor, Professor Nigel Brown, says "I am very pleased that the journal continues to do well when the competition for topical reviews in the field has increased. This justifies our policy of seeking authoritative reviews, which cover important areas in depth and act as a source of definitive information on a topic. Not only is the Impact Factor high, the Cited Half-Life is six years, showing the long-term value of the reviews that have been published."

Prospective authors, who seek to publish an authoritative review in a widely-read journal, should send information to a relevant Editor giving the proposed topic of the review, an outline of the content, and reasons why a review is needed at present. Notes to Authors and a list of Receiving Editors can be found at <http://www.fems-microbiology.org> by following the link to the Journals page and using the pull-down menu. Once an Editor has agreed to receive a review, the manuscript can be submitted electronically at <http://mc.manuscriptcentral.com/femsre>. FEMS Microbiology Reviews will continue to publish necessary colour figures free of charge.

30th Council Meeting on the shores of Lake Ohrid



The delegates to the 30th Meeting of Council met on the shores of Lake Ohrid, Macedonia close to the town of Ohrid. The lake is four million years old, around 300 m deep, is under the protection of UNESCO and ranks with the other ancient lakes of the world such as Lake Baikal and Lake Titicaca. This beautiful and inspired choice of venue was that of the local organiser Dr Vaso Taleski, providing a memorable setting for the work of Council. The Delegates Meeting was held the day before Council as usual, where the agenda for that meeting was discussed, with the Member at Large, Dr Godfried Vogels being in attendance to provide background information. That evening, a reception was held on the terrace overlooking the lake, with the sun setting over Albania, on the far side of the water. The all-day Council meeting began the following morning, September 20, 2003.

Whilst a full report of the Council will appear in Minute form in due course, it is worthwhile noting some of the major points of the meeting. The first of these was the election to Vice President of Dr Milton da Costa, Portugal; he begins a

three-year term in September 2004. A change in Executive structure was agreed upon whereby the Meetings Secretary will now incorporate the duties of the Grants Board Secretary and the Vice President will now have responsibility for External Affairs. The Secretary General, Dr Peter Raspor, reported on the hugely successful 1st FEMS Congress, held in Ljubljana, Slovenia. Whilst the accounts are yet to be finalised, at the time of writing, it is expected that they will break even. The next Congress will take place in Spain in 2006, and work for this has already begun. Dr John Norris reported on the Blueyonder working group, which was struck to explore the future location for FEMS Central Offices in the light of the decision of the Technical University of Delft that they were no longer able to accommodate FEMS in its existing accommodation or act as our employer. This was taken as an opportunity to explore widely these two matters, including consideration of relocation to another country. After due analysis by the Executive, it was decided that staying in Delft was our best option and a suitable location has now been found, providing an attractive, modern and professional setting for the FEMS Administration and Publications Division. We are now seeking appropriate advice when we become an employer in our own right.

After the all day meeting, Members of Council were invited to a dinner hosted by the Macedonian Society of Microbiology in the ancient town of Ohrid, about 20 minutes driving (and considerably less

with some taxi drivers!) from our hotel. Here we were treated to the traditional food of the region including the famed Lake Ohrid trout. Through the evening, four musicians provided accomplished folk music, which encouraged Council members to join in with the dancing. This dinner was of course especially poignant, as it was the last one to be attended by our retiring Treasurer, John Norris, who was accompanied by his wife Pauline. Hans Trüper provided a eulogy, highlighting the great contribution he had made in fiscal management and deep strategic thinking for FEMS over the past seven years. He presented John, who has a great passion for wild flowers, with a local woodcarving of flowers plus a book of flower photography. In reply to Hans, John left FEMS with a legacy of four thoughts, wittily woven into four most entertaining stories;

- "don't ignore the little things, they just might prove to be very important"
- "think ahead"
- "never underestimate the importance of communication"
- "be prepared to deal with the unexpected"

John's stewardship and council will be greatly missed by FEMS and I would like to record my personal thanks to him for a thorough and wholly enjoyable indoctrination into FEMS finances over this last year.

Dr Maurice Lock
FEMS Treasurer

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John Norris retired as Honorary Treasurer of FEMS

FEMS may proudly look back upon a row of excellent treasurers, all from the United Kingdom, who from the beginning helped to augment and stabilise the financial situation of the federation. As we are a charity and a company under British law, it is not only natural but also wise to choose our treasurer from experienced colleagues of that country.

John R. Norris joined the Executive of FEMS 1996 as the successor of Louis Quesnel in the office and duties as Hon. Treasurer. A man with such multiple experience in science and administration, in academia and industry was again a case of great luck for FEMS. John Norris studied bacteriology and agriculture at the University of Leeds and received the academic degrees of BSc (1st class honours) and PhD. One year as postdoctoral fellow in Denmark was followed by six years as a lecturer at Glasgow University. Then he spent ten years for Shell Research, for whom he set up and directed their Borden Microbiology Laboratory in Sittingbourne, followed by six years as director of the ARC Meat Research Laboratory near Bristol. After that he set up and directed the multidisciplinary Research Laboratory of Cadbury Schweppes at the University of Reading. His name is internationally well known by the famous "Methods in Microbiology" publication series, edited by John Norris and Doug Ribbons. He held visiting professorships at four different British universities, and in 1987 the

University of Leeds honoured John Norris for his research with a DSc degree. He has served in numerous committees. Research councils, government departments and scientific societies frequently requested his advice. When he in 1991 retired as director of the Institute of Biology, UK, he was honoured by being made Commander of the Order of the British Empire.

As the head thinker of the FEMS Executive in the last seven years besides running the money-oriented office of the treasurer he has considerably and positively influenced the decisions about establishing FEMS Central Office in Delft, in the legal shaping (statutes, standing orders) of FEMS as a charity and a company, in our Terra Nova brainstorming, in the financial preparations of our 1st FEMS Congress including its financial management, and for the relocation of our office within Delft (the so-called Blueyonder deliberations). And he has done all this with great care and diplomacy, exact and meticulous, never irate or visibly angry, with great sensitivity for people, and rather often with a smile. Since I became involved with FEMS as a delegate in 1989, I do not recall a Treasurer who has been so innovative and proactive as John Norris. This capacity is undoubtedly due to his unusual successful career.

He has the capacity of a Grand Counsellor, a Gray Eminence or the Grand Vizier in Old Turkey, finding the optimal solution in difficult situations after careful deliberations and in a convincing manner.

We shall definitely not only miss his guidance in the future, we shall miss this gentleman as a person!

On the other hand we wish him and his dear wife Pauline a great time with their future plans, be it with their house in Yorkshire or hiking and climbing the Yorkshire dales and any Alpine region of the world, respectively, photographing flowers and nature's beauty, and - when it rains - doing wood carving, ship model building and painting. In deep thankfulness we wish them good health and good spirits for the future.

Dr Hans G. Trüper
FEMS President



John R. Norris, with next to him his wife Pauline, showing his goodbye present, a wood carving, at the banquet after Council, Ohrid, Macedonia.

Introducing the new Treasurer: Maurice Lock



Maurice Lock

I began my scientific life as a zoologist but quickly corrected this error during my Post Doctoral Fellowship in the multi-disciplinary laboratory of Prof. Noel Hynes at the University of Kitchener-Waterloo, Canada. There began my interest in microbes, examining the capacity of river biofilms to sequester the soluble products from autumn-shed leaves. After three years at K-W I then spent just over a year in New Zealand, working closely with a hydrologist on topics ranging from measuring groundwater inputs and nutrient fluxes to lakes to determining the role of hydrodynamics in the uptake of PO₄ by river biofilm. I then returned to Canada to join the Alberta Oil Sands Environmental Research Programme (AOSERP) where we examined the impact of oil upon river communities. It was there

that I had the fortune to work with Dr Bill Costerton resulting in a synthesis paper with him and other authors, putting forward a structural-functional model for river biofilms. After a couple of years, AOSERP began to wind down, at which point I returned to the UK to take up my current position at the University of Wales, Bangor.

It had not been my intention to remain in the UK but a programme of research funded by NERC/ UK, NSF/USA plus the appearance of young children made for a productive and happy life. During this time I managed to persuade NERC that I could measure the metabolic heat output of biofilms and then went on to build an instrument to do just that. I doubt if such leaps of faith would be indulged today. However, the microcalorimeter worked well, producing novel results and we went on to demonstrate that there were components in the dissolved organic matter pool which rather than fuelling microbial metabolism actually inhibited it. From there, in collaboration with research assistants and graduate students we went on to develop a number of alternate techniques to monitor metabolism, growth, storage products and extracellular enzymatic activity of microbial biofilms. In 1995, with my research assistant Chris Freeman, we published a paper earning Chris the Lindeman Award from the American Society for Limnology and Oceanography. This study showed that biofilms were able to metabolise quite

happily for several weeks in the absence of any exogenous organic matter supply, thus the biofilms were potentially buffered against shifts in the organic energy supplies in some way. The mechanism of this buffering has yet to be resolved.

At around this time I then made a major move towards science administration, first becoming Deputy Head of School for 1 year and leading the preparation of our Teaching Quality Assessment submission, then Head of School for a subsequent 6 years. During that time I was fortunate to be able to recruit six new academic members of staff, who went on to publish well and bring in substantial funding. A Molecular Cancer Institute was developed, funded from the Welsh Assembly and the North West Cancer Research Fund charity and a suite of Bioscience Business Incubators units, uniquely embedded within our research and teaching facilities were installed, funded by the Welsh Development Agency. My term of office as Head of School ended in July 2003 ending a satisfying period in my life but I am now returning to the study of biofilms after a considerable lapse and that, combined with working for FEMS, feels very good. I look forward to serving the Federation and I will endeavour to foster the fiscal conditions necessary to achieve our scientific charitable objectives.

Dr Maurice Lock
FEMS Treasurer

New appointments at the NVvM

After numerous years, Prof. Dr Bauke Oudega has stepped down as the Chairman of the Netherlands Society for Microbiology, whereas Dr Erik Smit has stopped his activities as secretary. The new chairman will be Prof. Dr Stanley Brul, the vice-chair will be Prof. Dr C.M.J.E. Vandenbroucke-Grauls. The new secretary is Dr K. Maquelin. Dr Brul is part-time professor of Microbiology (with emphasis on food and food safety) at the University of Amsterdam as well as part-time employed by Unilever.

Dr Vandenbroucke-Grauls is professor of medical microbiology (bacteriology) both at the Vrije Universiteit of Amsterdam and at the University of Amsterdam. Dr Maquelin is a medical microbiologist at the Erasmus Universiteit of Rotterdam.

Prof. Dr Bauke Oudega
Past Chairman NVvM and FEMS Delegate

International Weigl Conference

September 11–14, 2003
L'viv, Ukraine

The International Weigl Conference was organised by Ivan Franko National University, Medical University, the Society of Microbiologists of Ukraine, the Polish Academy of Sciences and the Polish Microbiological Society. The conference included plenary lectures dedicated to the memory (he was born 120 years ago) of the wonderful scientist Rudolf Stefan Weigl, who developed the first effective vaccine against exanthematous (epidemic) typhus on the basis of propagation of *Rickettsia prowazekii* in the stomach cells of lice after artificial injection by capillary into the louse anus, and preparation of the phenolized vaccine. It was decided at the conference to continue The International Weigl Conference every two years, alternately in Poland and Ukraine.

At <http://www.lwow.com.pl/rudolf-weigl.html> one can find a lot of articles and photographs about the life and activity of Dr Rudolf Stefan Weigl.



The participants of the conference at the front of the building of the biological faculty of Ivan Franko L'viv National University.

Dr Bohdan Matselyukh
Vice-President of the Society of Microbiologists of Ukraine and FEMS Delegate

3rd Balkan Conference of Microbiology



September 4–6, 2003
Istanbul, Turkey

The 3rd Balkan Conference of Microbiology (*Microbiologia Balkanica* 2003) was organised by The Turkish Microbiological Society and The Balkan Society for Microbiology. The Conference was a great success with 429 participants from 14 different countries. The abstracts of 449 free papers and full manuscripts of the symposia and lectures are compiled in

a book of 564 pages (Proceedings and Abstract Book) published by The Turkish Microbiological Society.

On behalf of The Turkish Microbiological Society we would like to thank all participants for their sincere support and interest. It was a great pleasure for us to organize this meeting.

Assoc Prof. Dr Meltem Uzun, Secretary General
Prof. Dr Özdem Anđ, President

New member society: The Scottish Microbiology Society (SMS)



Graeme Walker.

The SMS was established in 1993, following the disbanding of the Scottish Branch of the Society for General Microbiology. At that time, microbiologists in Scotland felt the need for a national scientific forum for microbiology and our first membership list amounted to over 200 scientists. Our mission statement is: To provide a scientific (and social) forum for microbiologists in Scotland and through it foster the exchange of ideas and knowledge from all sections of the scientific community involved in

microbiology in Scotland. Generally, 2 symposia are held each year at various university, research institute and industry venues. These meetings are primarily held for presentations by postdoctoral fellows and PhD students but eminent guest speakers are also invited. The Society has held joint meetings with other scientific societies in the UK including the British Society for Plant Pathology (Plant-Microbe Interactions at Paisley, 2002), and recently the Society for General Microbiology (Microbial Aspects of Alcoholic Beverage Fermentations at Edinburgh, 2003). This September we held our 16th Symposium at Glasgow Caledonian University. Further information on SMS and its activities can be viewed on our website: www.scottish-microbiology.org.uk.

Dr Graeme Walker, University of Abertay Dundee, Scotland (SMS Committee Member and FEMS Delegate)



Annual Congress VAAM

The next Annual Congress of the VAAM (Germany) will be held in Braunschweig, March 28-31, 2004. The key subjects to be treated: Microbial Ecology and Diversity; Microbial Pathogens; and Biotechnology and Bioinformatics. Information will be available through a website (not yet available), or via www.vaam.de. Email: VAAM2004@tu-bs.de.

Dr Bernhard Schink
FEMS Delegate VAAM

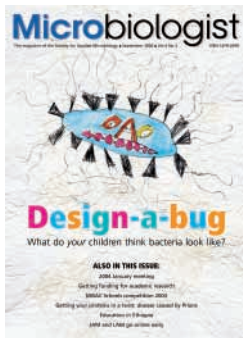
New FEMS Delegate for the Macedonian Society for Microbiology

Macedonian Society for Microbiology, as a part of Macedonian Medical Association, has renewed its activity in 1986 with 49 members, and the number increased to 90 in 2003. Seventy-five of them are medically qualified microbiologists and the remaining 15 are veterinary microbiologists, biologists and epidemiologists.

Macedonian Society for Microbiology has an aim to advance the science of microbiology by promoting education, research and training in Macedonia. Our research interests cover surveillance of infections, standardization of the microbiological diagnostic in Macedonia, antibiotic therapy and resistance in bacteria, control of nosocomial infections, molecular diagnostic techniques, virulence in microorganisms and their role in the pathogenesis of infections. The society so far has organised two Congresses of Microbiology with international participation (1997 and 2002). Since 1994, Macedonian Society for Microbiology is a member of FEMS, with its first delegate Prof. Dr Nikola Panovski followed by Dr Vaso Taleski who held his post until 2003. Starting from the 30th FEMS Council Meeting (which took place in September 2003 in Ohrid – Macedonia) our third national delegate was elected: associate Prof. Dr Elena Trajkovska-Dokic. As a member of FEMS our Society has received 8 Young Scientist Grants enabling our young microbiologists to take the opportunity in improving their knowledge and skills in many European microbiological laboratories. Our society is also a member of IUMS since 1994, and from 1999 is a member of Balkan Society for Microbiology (BSM).

Prof. Dr Elena T. Dokic
FEMS Delegate Macedonian Society for Microbiology

Design-a-bug competition organized by the SfAM Microbiologist



In the September issue of the SfAM Microbiologist a drawing competition was launched around the theme 'Design-a-bug' requesting children in three age categories up to 12 years of age to draw pictures of what they thought bacteria looked like. Four

thousand extra copies of Microbiologist were printed and distributed to over 3700 schools and colleges around the UK. This competition was the outcome of a discussion at the last committee meeting to consider adopting a 'school friendly'

theme and be distributed to schools and colleges to raise awareness of microbiology in general and the Society in particular.

The Design-a-bug competition has been a huge success with over 100 excellent entries to date (31st October 2003) and twenty schools getting entire classes involved! The closing date has now been extended to the 31st December so this figure is likely to be much higher by the close of the competition. Currently seven schools have requested details about associate membership of the Society, a figure that is again likely to increase and we are now planning to launch a similar awareness campaign and competition targeted at slightly older students.

Lynne Boshier, Events & Office Manager
Society for Applied Microbiology

Sixth International Forum on Global Vaccinology, Vaccines and Immunization

September 25-26, 2003
Minsk, Belarus

The Forum was organized by the Infections Control World Organization, Montreal, Canada and the Research Institute for Epidemiology and Microbiology, Minsk, Belarus, under auspices of the Ministry of Public Health of the Republic of Belarus and the National Academy of Sciences of Belarus (with involvement of the School of Medicine, University of California, Davis, Sacramento, USA and Faculty of Medicine,



Presidents of the Forum Prof. Dr Leonid Titov (Belarus) and Prof. Dr Edouard Kurstak (Canada) at the Presidium.

University of Montreal, Canada). At the Forum opening ceremony Presidents Prof. Dr Leonid Titov (Belarus) and Prof. Dr Edouard Kurstak (Canada) emphasized that the global vaccinology approach is well recognised as a very efficient concept. During the Forum about 250 leading researchers from Belarus, Russia, Switzerland, Germany, Austria, France, Italy, Canada, and USA established contacts in medical research and shared information about the development of new, highly immunogenic and safe vaccines as well as discussed vaccination procedures and schedules.

More detailed information concerning abstracts presented at the forum is available at the RIEM site: <http://www.briem.ac.by/eng/konf.html>

Prof. Leonid Titov
FEMS Delegate Belarusian Scientific Medical Society of Microbiologists, Epidemiologists and Parasitologists

From Protoplasts to Genomes Meeting to mark the retirement of John Peberdy MBE

A one-day scientific meeting was held on July 11, 2003 at the University of Nottingham, UK. This was to mark the retirement of John Peberdy – a former president of the British Mycological Society and FEMS Council Member.

The theme 'From Protoplasts to Genomes' focused on developments in mycology over John Peberdy's career. An international group of speakers, all of whom were onetime collaborators or students of John, gave a varied series of talks that were greatly enjoyed by the 80 people attending. The keynote talk by Joan Bennett (University of Tulane, USA) was an entertaining account of 'Bold molds, naked hyphae, and generous genomes'. Other main talks were by Rosie Bradshaw (Massey University, New Zealand), John Lucas (Rothamsted, UK), Ferenc Kevei (University of Szeged, Hungary) and Tony Trinci (University of Manchester, UK). One shorter talk presented by Katherine Smart (Oxford-Brookes University, UK) on stress,

stretch marks and senescence in *Saccharomyces* was especially relevant for a retirement meeting!

The sessions were chaired by David Archer and Paul Dyer (University of Nottingham, UK) and Lajos Ferenzy (University of Szeged, Hungary). Overall the day proved a most rewarding occasion and provided an opportunity for old acquaintances to meet up after a gap of many years.

Dr Paul S. Dyer
FEMS Delegate British Mycological Society



Anton de Bary, a Pioneer of Modern Mycology



Anton de Bary (1831-1888).

The enlightenment and the progress in microscopy in the 16th and 17th centuries opened the era of studies on the morphology and classification of fungi. Charles de L'Écluse (Clusius 1601), Gaspard Bauhin (1560–1624) and Joseph Pitton de Tournefort (1656–1708) presented a hierarchically ordered system with detailed description of genera. It was still believed that fungi originate from decaying matter. Gianbattista della Porta (1539–1615) was the first to propose the revolutionary idea that all plants and fungi produce “seeds”. But he has not proven that spores could germinate. The first named and cultured genera were *Mucor*, *Aspergillus* and *Polyporus* and their fruiting bodies and the arrangement of spores described by Pier Antonio Micheli (1679–1737), who followed the germination of spores up to the formation of fruiting bodies by microscopic observations.

The knowledge on morphology, classification and distribution of molds in habitats increased during the 18th and at the beginning of the 19th century. The static view of nature of the 17th and 18th centuries and the belief that all organisms could be traced back to creation or different forms of spontaneous generation was slowly replaced by the theory of evolution. One of the initiators was Antoine de Monet Chevalier de Lamarck (1744–1829), who explained the multiplicity of forms of organization and their gradation from primitive to highly developed species by change of environmental conditions over long periods and that low to high complexity evolved by an inherent potential and by adaptation to varying environmental conditions. The most important influence on biology in the 19th century, however, came from Charles Robert Darwin (1809–1882) who explained evolution by natural selection from varieties in subpopulations of

species living in separate habitats. Another basis for studies on the developmental biology of fungi was the availability of an improved composite microscope, which led to the birth of the cell theory in the 1840s. The study of biology of thallophytes at the cellular level was strongly promoted by the brothers Louis René and Charles Tulasne who showed in 1861–1865 that several morphological types, which had been described before as independent species, are really stages in the development of one species (pleomorphism) that follow each other in a regular succession over time. A further breakthrough on this field was achieved by Anton de Bary (1831–1888).

Scientific work of de Bary

Anton de Bary followed the complete developmental cycle of numerous fungi. He observed the development of sexual and asexual units of reproduction, and the formation of fruiting bodies from the germination of spores on artificial or natural substrates by microscopical means. He isolated clonal fungal cultures from single units of reproduction well before the method had been introduced in bacteriology. He observed in one of his early studies (1852, 1860) the streaming of the cytoplasm in the coenocytic mycelium of *Achlya proliferata* (Saprolegniaceae), described the formation and delimitation of the club-shaped zoosporangia as well as the formation of primary and secondary zoospores. De Bary observed that the formation of sexual organs is induced by factors that are excreted from one of the partners (1881, 1883). The role and chemical composition of these pheromones were determined about 60 years later by John R. Raper (1939, 1952).

De Bary was one of the first who detected the sexuality of fungi and the formation of alternate developmental stages by the study of the sexual and asexual propagation of several plant parasitic Peronosporaceae (1861). The role of nuclei in the sexual process was recognized 30 years later by Pierre-Augustin Dangeard (1894, 1895). The description of the formation of the ascogonium (carpogonium) and the antherid (pollinodium) lead to the conclusion that *Aspergillus glaucus* and *Eurotium herbariorum* are different stages of spore formation in the same species (1856 – 1869).

A masterpiece of experimental accuracy and modern thinking was the discovery of complex developmental cycles and the heteroecism of several rust fungi such as *Puccinia graminis* and *Chrysomyxa rhododendri* (1861 – 1879). De Bary discovered that the rust *Aecidium abietum* on *Picea excelsa* in the Alps above 1000 m and *Chrysomyxa Rhododendri* on *Rhododendron ferrugineum* and *R. hirsutum* were developmental stages of the same fungus. De Bary's investigations covered a broad range of taxonomic groups, e.g.

Sordaria, *Erysiphe*, *Taphrina*, *Exoascus* and representatives of the Phallales, Taphrales, and Mucorales. The descendant theory and phylogeny were for de Bary the basis for all of his comparative studies on systematics. Since taxonomy of fungi is nowadays still a matter of discussion it is clear that de Bary's view of classification found many opponents.

Life and academic career of de Bary

Heinrich Anton de Bary was born on 26th January 1831 in Frankfurt/Main, where his family lived for many generations. The interest in plants was inspired early in his life by his father and by the members of Senckenberg foundation. He acquired a solid knowledge of native flora. After his school examination Anton studied medicine and biology mainly in Berlin, thrilled by the botanist Alexander Braun, the physiologist Johannes Müller and the naturalist Christian Ehrenberg. The doctoral thesis on “De plantarum generatione sexuali” summarized the knowledge of his time on sexuality and change of generations. Following the medical examination in Frankfurt de Bary practiced for few months in a medical office. However, he did not like the job and decided to devote his life to botany. Several articles on the development of *Achlya*, early work on smut and on the fertilization of *Canna* were the basis for de Bary's “Habilitation” in 1853 and his promotion to the status of “Privatdozent” (1854).

Hugo von Mohl, professor of botany in Tübingen, was impressed by the skills and comprehensive knowledge of de Bary and mediated his appointment as professor of botany and director of the botanical garden in Freiburg in Breisgau in 1855. In spite of very modest working conditions, low salary, heavy teaching load and administration, these eleven years in Freiburg were extremely successful. Using his own words, he felt very happy. All important investigations on the development, sexuality, pathogenicity and taxonomy of fungi begun in Freiburg. De Bary was also fascinated by the slime molds because of their amoeboid movement, their formation of fruiting bodies and their phagotropic feeding. Although de Bary did not work extensively with lichens he proposed the symbiotic nature of coexistence of fungi and algae in one organism. His student Max Rees, who later became his scientific assistant in Halle, gave the proof of this symbiotic coexistence. The handling of volume III of Hofmeister's Manual of Comparative Anatomy and Histology of Phanerogames and Fernes was a lasting and laborious work. De Bary did not like the task, however, he felt obliged to the request of H. von Mohl. He finished the book later in Strasbourg. Interestingly, most of the structural details included in this book were tested by himself and not taken from the literature. De Bary was appointed in 1859 as a full professor. He married in 1861

Antonie Einert, who gave birth to four children.

In December 1866 de Bary accepted the offer for the professorship of botany and the position as director of the botanical garden at the university of Halle a.S. A new building for the botany institute was promised to him. In the following year the Chair for botany at the university of Leipzig was offered to de Bary. He decided to refuse this offer and used this opportunity to demand from the administration in Berlin a new position for a scientific assistant, preservation of the botanical garden in its present size, increase of the financial budget of the botanical garden, and the fulfilment of the financial support for the construction of a new building. Most of the requests and an increase of his personal salary were granted, however, the new building has not been constructed before de Bary had left Halle. The five years of de Bary in Halle were a productive period. Many new students and postdocs were attracted by his work and personality. De Bary became an internationally acknowledged scientist.

After the war against France a new university was founded in Strasbourg/Alsace (1872). The university was supervised directly from Berlin and provided with a considerable financial budget. New buildings were constructed mainly during the years 1878 and 1882. De Bary accepted the invitation for the chair of botany after successful negotiations about budget and a new building. At the opening ceremony of the university on the 1st of May in 1872 Anton de Bary gave a speech

as the first selected rector of the university. The new Institute of botany was finished in 1882. W.R. Dudley from England was impressed by the modern and well equipped building, excellent microscopes and by the collection of slides with preparations of sections through infected plants. De Bary managed the heavy load of duties connected with the erection of the new institute, the reorganization of the botanical garden, administrative work, activities as editor of the "Botanische Zeitung" and completion of the manual of plant anatomy with a high sense of duty. The charisma of his personality and the modern aspect of his successful research attracted many scientists from the USA and European countries to spend their sabbatical with de Bary. In the well-fitted library of the institute all co-workers and guests came together every Monday evening to listen to a talk or discuss new literature. The evenings finished with cheerful conversations in a nearby pub. Anton de Bary was not only a great researcher but also a gifted teacher. His lectures convinced more by the lucidity of presentation than by an artistic charm. De Bary offered every student the freedom to select his own field of research and the type of experimental approach. He has never been authoritarian but always ready to help, suggest and stimulate self-criticism.

In Strasbourg, de Bary continued studies on taxonomy, on the process of infection and on the developmental biology of Peronosporaceae and the phytopathogens *Sclerotinia* and *Botrytis cinerea*. An important aspect of de Bary's work for the taxonomy of Saprolegniaceae was the

delineation of species. In an extended series of experiments starting with single spores, he investigated the constancy of species, varieties, and races. He registered the distribution of species in different habitats and analyzed his results under consideration of natural selection and evolution. In 1884 the second edition of the textbook "Comparative morphology and biology of fungi, Mycetozoa and Bacteria" was published.

In this productive period he was taken ill with a sarcoma of the upper jaw. He still participated at the congress of the British Association for the Advancement of Science in 1887 in Manchester. After four months of suffering he passed away on 19th January 1888. Numerous obituaries from all over the world demonstrated the international recognition of Anton Heinrich de Bary.

Prof. Gerhart Drews
Freiburg

The work and career of de Bary were described in:

Drews G. (2001) *The developmental biology of fungi – a new concept introduced by Anton de Bary*. *Adv. Appl. Microbiol.* 48:213-227.

Drews G. (2000) *Anton de Bary, ein bedeutender Biologe, lehrte in Freiburg, Halle und Straßburg*. *Freiburger Universitätsblätter* 149:5-25.

Sparrow F. (1978) *Professor Anton de Bary*. *Mycology* 70:222-252.

The publications of A. de Bary are listed in *Royal Soc. Catalogue of Scientific papers*.

CENTRAL OFFICE

Central Office moves on



New premises Central Office.

Central Office has outgrown its offices in the building attached to the Department of Biotechnology of the Technical University of Delft. It was at this location, originally designed by Professor Kluyver as his residence, where the Central Office was initially established in 1998 with the appointment of the Executive Officer. Since then, the office saw a steady growth in activities, space and staff, from one to nine employees. The University had found it increasingly difficult to accommodate such expansion. FEMS felt that its office now had reached a stage of maturity, which would be advantaged by a more independent operation. This drive towards independence, together

with the university's claim on the office space and its intention to withdraw as employer of FEMS staff, resulted in the decision to move to new premises and to employ staff in due course by the Federation directly.

Following extensive investigations and comparisons of locations, it was concluded that a continuation of the operation in Delft was the best option. The search for another office location was relatively easy in this period of economic recession with plenty of good lease opportunities. A lease contract was signed for 224 square meters located in a modern building situated in the university area only about 1 km away from our current location.

FEMS Central Office has become operational at the new office as of the end of November 2003. The new address is:

**FEMS Central Office
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F: +31-15-269 3921**

**E: fems@fems-microbiology.org
I: <http://www.fems-microbiology.org>**

We will be serving the European Community of Microbiologists from this new location to the best of our abilities!

Dr Diman van Rossum
Executive Officer



Staff posing at the botanical garden in Delft (left to right: Diman van Rossum, Marijke Klaver, Iliana Yocheva, Colin Davey, Gillian van Beest, Guus ten Hagen, and Wilma van Wezenbeek). Alenka Prinčič was not in the office at the time the photo was taken and the new Editorial Administrator, Montserrat Blázquez-Domingo had not yet started.

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

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**Dr Milton da Costa has been elected
Vice President for the term 2004-2007**

COLOFON

Chief Editor: Prof. Peter Raspor; Managing Editor: Wilma van Wezenbeek
Editorial input: Dr Alenka Prinčič; Editorial assistance: Marijke Klaver

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(no. 1072117) and also a company limited by guarantee (no. 3565643).

DELEGATES

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