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FEDERATION OF EUROPEAN MICROBIOLOGICAL SOCIETIES
FEMS Circular

January 2005 No. 57

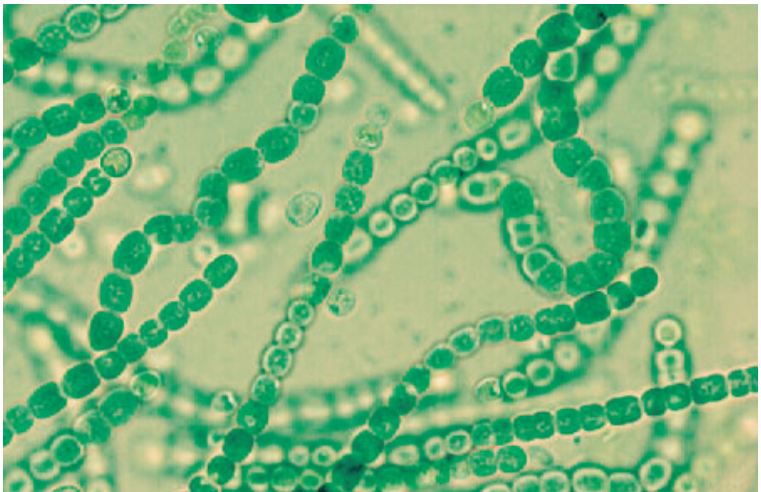
Contents

Editorial

The year 2004 was for FEMS an exceptional year. The FEMS Central Office moved to a new location and we started a new era in our development as '**Stichting FEMS Central Office**' (see page 11). We established a new award devoted to Professor **Hans L. Jensen** to be coined for the **30th anniversary of FEMS** with seed funds of Dr. **John R. Norris** and further help of the Danish microbiological society (see pages 10/11). We started the preparation for the next FEMS congress in Spain (see page 2) and we had the opportunity to join EuroMicroDay 2004 and to discuss further research possibilities for microbiology for Europe, clustered in a larger European Union. In 2004 we sponsored 10 meetings and we enabled more than 50 young researchers to improve their expertise thanks to a mobility opportunity.

During this vibrant time we expressed our deep appreciation to the past President **Hans G. Trüper** who has been heavily involved in uniting microbiologists under the FEMS umbrella and in his dedicated preparation of the 1st FEMS Congress of European Microbiologists. At the same time we are looking forward to the programme, which is offered by our new President **Eliora Z. Ron** (see page 2) who will lead our Federation in the next few years. With her experience and devotion to the spirit of microbiology we expect a further and fast development and expansion of new activities both for FEMS and for European microbiologists.

Dr Peter Rasper
FEMS Circular Chief Editor



FEMS Fellow Dr Paula Duggan provided this photograph (the organism is Nostoc punctiforme PCC 73102 (ATCC 29133)). It was taken at the University of Stockholm – as part of Paula Duggan's studies – with Liang Ran and Professor Birgitta Bergman. This picture is also used for the FEMS Meetings Poster that has been distributed end of 2004.

FEMS Meetings Calendar

2005

Molecular Basis of Bacterial Pathogenesis
January 23–27, 2005
Ein Gedi (Dead Sea area), Israel

Microbial Infection: Analysis, Prevention and Use
April 7–9, 2005
Würzburg, Germany

European Study Group on Molecular Biology of Picornaviruses (EUROPIC 2005)
May 23–29, 2005
Lunteren, Netherlands

Analysis of Microbial Cell at the Single Cell Level
May 26–29, 2005
Semmering, Austria

Vector-borne Emerging and Re-emerging Pathogens and their Infections
June 4–6, 2005
Istanbul, Turkey

8th Symposium on Bacterial Genetics and Ecology
June 26–29, 2005
Lyon, France

3rd International Conference on the Biology of Nocardia
(Nocardiae'2005)
July 5–7, 2005
Lyon, France

4th International Gordon Conference on Molybdenum and Tungsten Enzymes
July 10–15, 2005
Oxford, United Kingdom

Continued on page 2

A letter from the new President of FEMS

Dear friends and colleagues,

I am honored to assume the position of President of FEMS and wish to thank you all for your trust.

New President Eliora Z. Ron gives good luck to past President at Council banquet hosted by the Norwegian Society for Microbiology.

It is with a sense of deep esteem that I follow my predecessors, the previous presidents, and appreciate their contribution to microbiology in Europe in general and to FEMS in particular. It is with these thoughts of respect that I wish to thank Prof. Hans G. Trüper, the previous FEMS President. Professor Trüper is a leading microbiologist, highly regarded world-wide, and a pioneer in systematics of prokaryotes. Under his leadership FEMS continued to flourish and advance: we had the 1st FEMS Congress, launched a new FEMS journal and established the FEMS Central Office, which now includes a Publications Office, and expanded international collaborations.

Microbiology today is a very exciting field – the "omics" era has opened up numerous possibilities for research into the nature of environmental microorganisms, including the fascinating and poorly understood microorganisms that are not culturable. Clearly, metagenomics will reveal a broad spectrum of new bacteria, new pathways and novel products. In parallel, pathogenomics will advance our understanding of virulence genes and the way bacteria use them to mediate interactions with their hosts. The recent fear of bioterrorism has focused attention on another aspect of microbiology and has led to extensive research. Furthermore, it is now clear that we will soon face a grave situation in which bacterial drug resistance will overcome the available antibacterials. Will we succeed in convincing the health authorities and the pharmaceutical industry of the urgent need to look for new targets for therapy and novel ways to prevent microbial diseases?

FEMS is the voice of microbiology in Europe. It is essential to combine forces with other organisations, such as the American Society of Microbiology and European Molecular Biology Organisation, in order to increase our impact. Thus, I regard international cooperation as one of the most important issues that should concern us, and will do my best to set up and maintain such collaborations.

My aim is to strengthen the impact of FEMS, to further improve its image among scientists, policy makers, the media and the general public. I aspire to maintain and strengthen FEMS as an effective organisation in supporting excellent research, publishing the best journals and leading the European scientific policies. It is my belief that these aims can be achieved, as we represent a federation of excellent scientific societies and can count on their cooperation and support.

In the name of the FEMS Executive Committee, the FEMS Central Office and the FEMS Publications Board, I wish you all a very happy, peaceful and productive 2005.

Dr Eliora Z. Ron
FEMS President

Council Meeting 2005

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

FEMS Meetings Calendar

22nd International Conference on Yeast Genetics and Molecular Biology
August 7–12, 2005
Bratislava 5, Slovakia

9th Symposium on Aquatic Microbial Ecology (SAME-9)
August 21–26, 2005
Helsinki, Finland

Pseudomonas 2005
August 27–31, 2005
Marseilles, France

2nd International ASM-FEMS Conference on Enterococci
August 28–31, 2005
Helsingør, Denmark

8th Symposium on Lactic Acid Bacteria
August 28 – September 1, 2005
Egmond aan Zee, Netherlands

13th 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

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

FEMS Council 2004 was a great succes

We thank the Norwegian Society for Microbiology!

2nd FEMS Congress in Madrid in 2006

- The 2nd FEMS Congress of the European microbiologists will be held in Madrid (Spain), July 4–8, 2006.
- Information on the Congress can be found on the insert, included in this circular.
- The Congress Webpages will be regulary updated, so please refer to www.fems-microbiology.org/congress for accurate information.

Importance of pharmaceutical microbiology for medicinal products quality

Clinical microbiology and food microbiology are the branches of microbiology that receive most attention. Less focus is dedicated to the pharmaceutical microbiology, which is mainly connected with industry. Pharmaceutical microbiology is involved in testing raw materials, water and final products. Microorganisms and their products, especially cell wall components, enzymes and toxins, may cause infections in people and animals if contaminating the medicinal products or medical devices. Drug-born bacterial infection was first documented in 1907, when *Clostridium tetani* cells were detected in plague vaccine. Severe, life-threatening toxic shock syndrome of patients may be caused by Gram-negative rods or by lipopolisaccharides present even in sterile preparations. Recently extensive efforts have been undertaken to minimise the risk of transmitting animal spongiform encephalopathy agents via human and veterinary medicinal products.

Microorganisms and their enzymes may also affect quality of medicinal products. The inactivation of some active compounds may occur, for instance penicillin and other beta-lactam antibiotics may be inactivated by bacterial beta-lactamases. Also organoleptic features of medicinal products, like general appearance, smell or taste may be changed. Tablets disruption and powder or granulate clotting may also concern different pharmaceutical forms of drugs.

Medicinal products must be particularly safe, because they are usually given to sick, weak and elderly people. These patients are sometimes immunocompromised and often not able to respond to severe infection. When contaminating microorganisms are multiresistant, the problems become more severe.

Several microbiological laboratory tests, described in Pharmacopoeias, are applied for drug control:

- test for sterility;
- test for microbial contamination, where the presence of particular bacterial strains or groups of microorganisms is detected;
- preservative efficacy test applied for drugs in multidose containers;
- test for endotoxins, detecting bacterial cell-wall lipopolisaccharides.

Furthermore, microbiological assays may be applied for estimation of antibiotics activity, determination of vitamins, testing of trace penicillin contamination, determination of antiseptics antimicrobial activity.

Microbiology is also important in determination of water quality. Several monographs concerning water for pharmaceutical purposes like Water Purified, Water Highly Purified, Water for Injections, in bulk or containers, are published in European Pharmacopoeia [1]. It is very surprising that present European Union requirements for microbiological quality of potable water [2] are stricter than those for Water Purified used for pharmaceutical production. Specification for Water Highly Purified allows 10 (pathogenic) bacterial cells in 100 ml of water, amount, which may be sufficient to cause severe infection of susceptible patient. This situation occurred because different authoritative bodies established microbiological requirements for different kinds of water.

Pharmaceutical microbiology is involved also in microbiological evaluation of drug production systems, especially aseptic production. A microbiological validation master plan provides a framework and strategy for all of the microbiological controls and testing, required to support pharmaceutical manufacturing process. Authorities and people working in chemical laboratories should consider that proper microbiological control of medicinal products and quality of medical devices are as important as chemical control. It is also worth knowing that while validation and speeding up of the analytical microbiological assays in pharmaceutical microbiology is crucial, the change of the attitudes with regard to the problems in pharmaceutical microbiology may be even more important.

Especially methods of isolation and identification of microorganisms should be improved and more attention has to be dedicated to qualitative tests when compared to quantitative assays. Conventional microbiological methods, based on broth and agar plate cultivation, microbial colony characterisation after 24 h of incubation, Gram-staining and classical identification tests, though, have been very successful in the last 150 years. Pharmacopoeial microbiological methods are generally very time consuming; sterility testing, for instance, takes 14 days [1]. There are, however, also slow-growing bacteria such as *Mycoplasma*, and its detection takes 35 days, while *Mycobacterium* cultivation takes even 56 days. Some pathogenic microorganisms are viable but not culturable, so they do not grow on media recommended in Pharmacopoeias, however, they might be very dangerous should optimal conditions appear. On the other hand, there are medicinal products on the market that have very short shelf life, like radiopharmaceutics or products for gene therapy.

Validation of microbiological assay is more difficult and complex than chemical method validation. Greater variation is observed in microbiology: lack of sample homogeneity, occurrence of different cell shapes, forms and conglomerates as well as changes in metabolism due to living conditions or stress. Growth of bacterial strains depends on their genetic traits, inoculum size, media and incubation conditions. The situation is thus complex and there is a need for new, rapid, high-quality methods as alternative to compendial microbiological methods. They should be automated, computerised, simple, cheap and environment-friendly, and described in recognised international journals. Several new methods that are not based directly on microorganism cultivation have already been established. Colorimetric detection of carbon dioxide, detection of changes in gas pressure in incubation container, as well as biochemical tests with specific substrates for identification, are applied for microorganism detection. Recently, bioluminescence, epifluorescence and impedimetry assays have been implemented for detection and partial identification of microorganisms. Adenosine triphosphate bioluminescence assay can be used for testing the sterility, water, raw materials, in-process bulk solutions, cleaning-in-place (CIP), sterilisation-in-place (SIP) and environmental control. The assay is very sensitive; about 2 femtograms of ATP can be detected, which corresponds to few bacterial cells [3].

Another modern method, epifluorescence, can be used for detection and enumeration of living cells. It is based on fluorescent labelling of viable cells with active enzymes and non-disrupted cell membrane, so viable but non-culturable microorganisms may be detected. Direct epifluorescence filter technique (DEFT) system and more advanced laser membrane filters scanning epifluorescence cytometry are used for filterable products analysis, while epifluorescence flow cytometry can be used for non-filterable samples.

Continued on page 4

Continued from page 3

Rapid methods can be applied for identification of microorganisms. Automated biochemical systems like ATB, Vitek, Biolog, etc, are becoming more and more popular. There are also methods based on cells structure analysis, like gas chromatography of fatty acid methyl esters (FAME), enzyme-linked immunosorbent assays (ELISA) of antigenic surface structures, infra red and mass spectrometry of molecular structures.
Modern, genetic-based techniques are widely used in medical microbiology for pathogen detection in clinical material and further analysis. However, it cannot be discerned whether the DNA or RNA is derived from living or dead cells. In pharmaceutical microbiology it is crucial to analyse and count viable microorganisms, which can multiply in medicinal products. Chemiluminescent in situ hybridization and BioChip technology using DNA-probes for identification of microorganisms are promising.
Systems for impedimetry analysis can be used for sterility testing, non-sterile preparation analysis, preservative efficacy and antimicrobial activity of antiseptics. Changes in electric impedance or conductivity of microbial media are used to detect microorganisms, as growing microorganisms break down large, relatively uncharged molecules to smaller, more abundant, highly-charged molecules.

The International Commission of Harmonisation (ICH), which tries to harmonise European, Japanese and US Pharmacopoeias, has outlined that use of Pharmacopoeial methods is not mandatory and alternative, rapid microbiological methods can be applied for determination of medicinal products quality once validated. However, when disputed the compendial method is conclusive. The idea of harmonisation of drug control procedures (also microbiological) implemented in different countries in Europe lead to establishing the European Network of Official (National) Medicinal Control Laboratories (OMCL) [4]. International, collaborative trials organised by the European Directorate for the Quality of Medicines (EDQM) [5] prove the quality of performed analyses and laboratories.
It is evident from the above, that pharmaceutical microbiology is complex and important, and that substantial efforts of different aspects are undertaken to establish high quality, safety and efficiency of medicinal drugs on the market.

Dr Stefan Tyski
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National Institute of Public Health (formerly Drug Institute), Warsaw, Poland

[1] http://online.pheur.org/entry.htm
[2] Council Directive of 3 November 1998 on the quality of water intended for human consumption (98/83/EC). Official Journal of European Communities 05.12.1998, L330/32-L330/54.
[3] Klegerman M.E.: Quantitative ATP Analysis. In Automated Microbial Identification and Quantitation. Technologies for the 2000s. Ed. Olson W. P., Interpharm Press, Inc. Buffalo Grove, IL, 1996, 259-276.
[4] http://www.pheur.org/site page_dynamique.php3?lien=R&lien page=16&id=13
[5] http://www.pheur.org

A Bulgarian lady in Paris

Neli Slavova-Azmanova spent twelve weeks at the Pasteur Institute, Paris, France in April-July 2004. At present she is an assistant professor in microbiology at The Stephan Angeloff Institute of Microbiology, Bulgarian Academy of Sciences, Sofia, Bulgaria.

"FEMS has given me the opportunity to spend twelve weeks at Unité de Génétique moléculaire bactérienne, Institut Pasteur, Paris, France, under supervision of Dr Anne-Marie Gilles. Understanding the structure and the catalytic mechanisms of bacterial enzymes included in nucleoside metabolism is of interest not only from a fundamental point of view, but also for a structure-based design of inhibitors acting only on bacteria with little or no effect on host organisms. My project was focused on bacterial uridine monophosphate kinases, as enzymes without analog in eukaryotic cells. It was and is a unique opportunity, not only professionally, but also personally, to be part of an intellectually stimulating environment as the Pasteur Institute. I was very impressed with the quality of the scientists and the perfect atmosphere for learning and working. My discussions with Anne-Marie Gilles and Prof. Octavian Barzu made my overview on the problems in the field of protein biochemistry clearer. They gave me excellent advices about my work and were always ready to help. Their qualities as a human being are unparalleled and I thank them for all the time they devoted to me. I am sure that the friendships that I have developed will be life-long and significant.

Neli Slavova-Azmanova and her supervisor Dr Anne-Marie Gilles in the laboratory where the research has been conducted, Unité de Génétique moléculaire bactérienne, Institut Pasteur.

May I say how much I have enjoyed my time in Paris and how grateful I am for the opportunity and experience this FEMS Fellowship has given to me. Paris, known as the City of Light, is one of my favourite cities. Paris has a rich scientific and cultural history; it is probably the city with the most things to see."

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: December 1 and **June 15**.
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: **March 1 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. > Events > Grants**

Introduction from the new Chief Editor

Starting the first of January 2005 Professor Nigel Brown stepped down as Chief Editor of *FEMS Microbiology Reviews* to take up new responsibilities. During his time as Chief Editor, the impact factor of *FEMS Microbiology Reviews* increased steadily from 6.367 to 10.160, and the journal was consolidated as the top one in European microbiology with a cited half-life of more than 6 years. As a result *FEMS Microbiology Reviews* is attracting many excellent contributions. On behalf of the current editors I wish to thank Professor Nigel Brown for this lucid guidance and wish him all the best and success in his new job. Thanks should also be given to authors, editors, Editorial staff of the Central Office in Delft and the support staff of Elsevier: they all gave an essential contribution to this success.

Seeing such an impressive past I am gladly taking over the position of Chief Editor. My priority is to serve the community of microbiologists with enthusiasm and within the frame of this journal. I think that there is a challenging and exciting time ahead of us. Microbiology is a fascinating field in which the diversity of life is widely represented and this diversity should offer important new insights into the complexities and interrelations of life, thereby opening the way to new concepts and applications. With an ever-growing flow of information, good reviews play a very relevant role both as a reference for the specialists and as introduction for those new to particular topics. Reviews in our journal are expected to cover, in-depth and in a leading way, important subjects in microbiology and should underline the biological implications that could make them attractive to a general audience.

Both regular and thematic issues are published in *FEMS Microbiology Reviews* and, in fact, during 2005 we expect to publish three regular issues and two thematic ones, one on Genomics and the other one on Lactic Acid Bacteria. The online system (http://mc.manuscriptcentral.com/fems) is now consolidated and it should simplify all the procedures and steps involved in submission, evaluation and publication of the manuscripts.

Dr Ramón Díaz-Orejas
Chief Editor *FEMS Microbiology Reviews*
fems-reviews@cib.csic.es

2005 covers of the five FEMS journals.

Dressed for Future Action

FEMS Central Office has now been set up as an independent employer in the Netherlands.
This required first and foremost a legal registration in the form of a Dutch-style foundation, coined FEMS-NL. This foundation is managed by a Board consisting of those members of the Executive Committee who are directly involved with the operation of Central Office (Treasurer, Secretary General, and Publications Manager) and the two Executive Officers. The structure of FEMS-NL warrants that the Federation remains under control of the Executive Committee. Personnel tasks have been split in Human Resources, by Wilma van Wezenbeek, and Payroll, by Diman van Rossum.
All ten employees have signed their new employment agreements, and a toast was made to the transition as per December 1, 2004.

It was nice that the 30th anniversary of FEMS, on November 22, 2004, coincided with the establishment of FEMS in the Netherlands. A new era is dawning indeed, and we are dressed for action in the coming years. New activities will focus on changes in relation to the publication of our journals, and in preparations for the 2nd FEMS Congress (2006) in Madrid. We are also aiming to expand secretarial services for our members, which focuses on membership administration and website hosting. Member societies are invited to discuss the advantages of a bilateral service-agreement with FEMS.

In the Publications division a new fulltime Editorial Assistant, Martha Pelkman, started, on a two-year position. She will back up the three Editorial Administrators and assist the Executive Officer Publications and Editorial Coordinator with administrative tasks. We hope that with her help we will be able to serve our authors and editors even better. The Publications division is facing a challenging period, with the upcoming transfer of the journals to Blackwell Publishing.

Dr Diman van Rossum & Wilma van Wezenbeek
Executive Officers

FEMS staff around the nameboard at the office entrance. From left to right: Dr Alenka Princič, Montserrat Blázquez-Domingo, Guus ten Hagen, Iliana Yocheva, Wilma van Wezenbeek, Bong-Yeo Venema, Colin Davey (standing), Gillian van Beest, and Diman van Rossum.

New FEMS training scheme

Do you have a keen interest in encouraging young people to study microbiology? Do you have the facilities at work to organize a training course for local teachers in basic practical microbiology? If so, you may wish to apply for a place on a special course.

As part of a programme to promote microbiology education, FEMS is pleased to announce a new scheme to sponsor members of FEMS societies to attend a training course in the UK, hosted by the Society for General Microbiology (SGM). The two-day course will take place at the University of Reading on June, 27-28, 2005. SGM will provide a complete set of course materials that can be taken away and translated into the native language of the delegate. SGM will arrange overnight accommodation near to the university and will provide meals.

The FEMS grant will cover reasonable travel and accommodation expenses. Up to 15 places will be available. Applicants should show that:

- They have links with teachers and a proven interest in school microbiology, including knowledge of their national or regional microbiology curriculum.
- They have appropriate facilities for hosting a course and their Head of Department's approval for doing so.
- They have the administrative and technical support to organize a regional or national course.

Applications must be validated by the member's national society.
Successful applicants must provide feedback to FEMS about courses they run. For information on how to apply, see the FEMS website at http://www.fems-microbiology.org. The closing date for applications is March 11, 2005.

Please direct all enquiries to Janet Hurst of the SGM (j.hurst@sgm.ac.uk; telephone: +44-118-988 1809; fax: +44-118-988 5656).

The programme for the new FEMS Training Scheme

Day 1
Delegates will observe the SGM's well-established one-day workshop in practical microbiology for high school teachers and technicians. The workshop, which is a mixture of talks, demonstrations and hands-on activities, is in three parts:

- Introduction to microbiology, aseptic techniques and safety.
- Microbiology in action – use of the microscope and an antimicrobials investigation.
- A short answer text and simple practical exam.

By the end of the workshop, the participants should be confident to prepare and run practical microbiology lessons with their students. The workshop is suitable for complete beginners, or as a refresher for those who already have some experience. Each participant receives a manual of basic practical microbiology techniques and a book of suitable investigations.

Day 2
Delegates will participate in a Trainer of Trainers session, to learn how to run such a course themselves in their own institution. This will include all the practical details such as costs and fees, marketing the course to schools, taking bookings, organizing catering, etc., as well as information on the laboratory facilities required, equipment and consumables and timetabling the activities.

A Greek scientist visiting

Firstly, I would like to thank the Federation of European Microbiological Societies for the grant that enabled me to visit the Zabolotny Institute of Microbiology and Virology and the National University of Food Technology in Kiev, Ukraine, with the aim to explore and promote research cooperation in applied microbiology and food science and technology between Greece and Ukraine.

Applied Microbiology in Ukraine

The Institute of Microbiology and Virology, which is a part of the National Academy of Sciences in Ukraine, carries out fundamental and applied research in microbiology and molecular biology (departments e.g. on Antibiotics, Physiology of Industrial Microorganisms, General and Soil Microbiology, Biochemistry, and Molecular Biology).
Through this two-day visit, I was able to discuss the current state of affairs regarding research at the Zabolotny Institute of Microbiology and Virology with the Head of the Institute, Professor Podgorsky. The President of the Ukrainian Society of Microbiologists, Professor Matselyukh, whom I am grateful for his invitation, guided me through the Departments, and I had an interesting discussion with Professor Nadezhda Kovalenko, the winner of the State Premium of Ukraine, who is currently involved in research on probiotics and lactic acid bacteria. It must be noted that the Academy boasts a huge collection of bacterial strain, isolated and characterized from its own research work and further information on strains can be obtained from Professor Podgorsky.

My visit to Zabolotny Institute of Microbiology and Virology whith my host Professor B. Matselyukh, President of Ukrainian Society of Microbiology (at the right).

Food Technology in Ukraine

During my second day, I visited the Ukrainian State University of Food Technology, located in the centre of Kiev. I was briefed by Professor Lyubomir Homichak, the Vice Rector, whom I greatly thank, about this University. The history of the University dates back to 1930, known as Kiev Institute of Sugar Refinery Production, and only since 1993 it carries its present name. Current research work is focussed on various key areas of food technology. Among the departments, the following are actively engaged in research: Department of Sugar Substance Technology, Department of Technology of Fermentative and Bakery Production, and The Department of Technology of Meat and Dairy Production. Approximately 1000 students are currently enrolled in both under- and postgraduate studies offered by the various Departments. The State University is presently collaborating with European universities through INCO-Copernicus and E.U. programs. Further information on research collaboration can be obtained from the web site: www.nuft.edu.ua

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Financial report for 2003

The year of 2003 saw the realisation of two significant events for FEMS; firstly the 1st FEMS Congress, held in Llubljana, Slovenia in June/July 2003 and secondly, the relocation of the Central Office in Delft to a business park on the edge of the Technical University of Delft.

The Congress attracted 1378 participants and has been widely acknowledged to have been a great scientific and cultural success. The Federation has supported the 1st Congress currently to the value of 158,218 euros, which will be reduced to 121,443 euros upon the successful recovery of VAT. The organisation of this event has also generated a substantial legacy of knowledge that will be used for preparing the 2nd FEMS Congress to be held in Madrid, Spain on July 4-8, 2006.

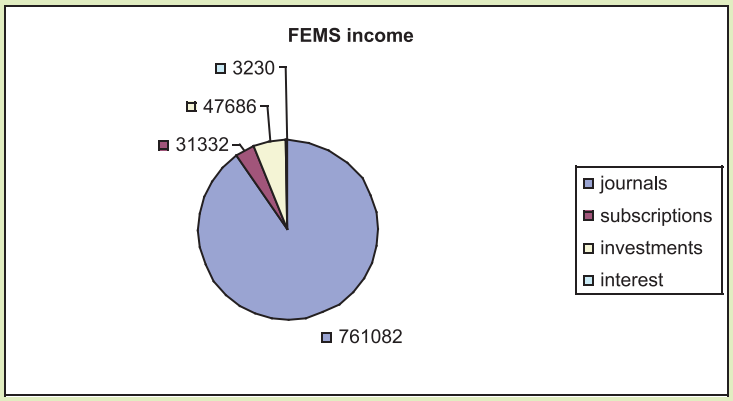
As a consequence of the Technical University of Delft (DUT) requiring the accommodation being occupied by FEMS, it was necessary for us to relocate the Central Office. Suitable accommodation was subsequently found after an extensive evaluation of options, on a business park located on the edge of the DUT campus. We took possession of the new offices at the end of November 2003. They are leased from Geodelft, and have so far proven very satisfactory for all our staff. In addition to DUT requiring us to vacate their premises they were also no longer able to function as an employer for FEMS staff from December 2004. Thus, FEMS had to become an employer in its own right by this date and engage a supplier of Human Resources and Payroll services.

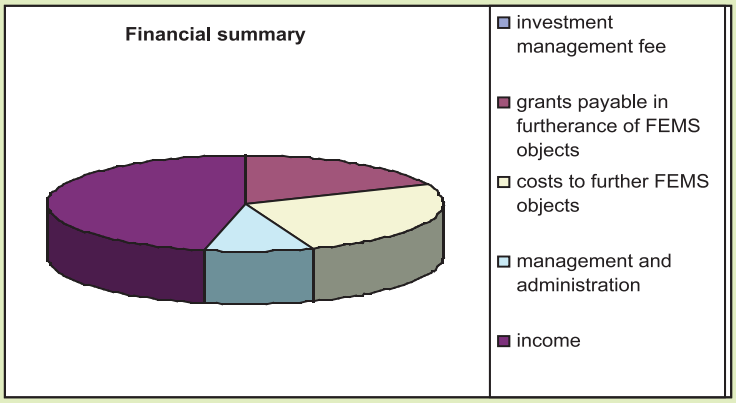
During the year 2003 FEMS supported 14 meetings either with meetings support grants or with young scientists grants or both to a total sum of 82,798 euros. It is notable that eligible applications for 2003 came to a total sum of considerably less than that committed (125,000 euros). Fellowships to the total value of 67,549 euros were awarded to 34 microbiologists to assist them to spend time working in laboratories in countries other than their own.

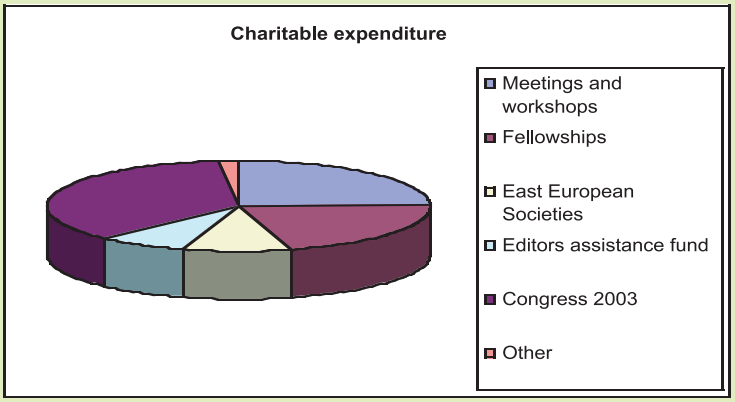
FEMS was also able to continue its policy of providing journals free of charge to various Institutions in the Eastern European countries. We are aware that this is a much-appreciated form of special assistance to those areas of Europe. The cost of this service was 30,798 euros during 2003. Grants and costs payable in furtherance of the Federation's objectives for the year totalled 401,366 euros.

Our Investment portfolio continued to perform better than the sector indices and at the year-end, FEMS reserves stood at 953,013 euros. This is at a level that is judged to be adequate to sustain our present level of activity and our plans for the immediate future, without jeopardizing the long-term financial health of the Federation.

Dr Maurice A. Lock
FEMS Treasurer







ESCV and the Quality Control of Molecular Diagnostics

This autumn, the ESCV was Coorganiser of the 2nd Eurovirology meeting in Madrid. The meeting provided excellent lectures on both Basic and Clinical Virology. The next meeting, the 8th annual meeting of the ESCV, will be held in Geneva on April 27–30, 2005. The varied and challenging programme can be found at www.symporg.ch. Information on other future meetings can be found at www.escv.org. The other important task of ESCV, to maintain and improve a high diagnostic quality in Europe has been focussed on molecular diagnostics. ESCV initially organised its own panels and workshops, and now supports the Quality Control of Molecular Diagnostics (QCMD) by providing virological expertise for the construction and reference testing of various panels. We also plan to identify experts in various fields in Clinical Virology throughout Europe. This will be done partly together with QCMD. We believe that a database where important reference persons can be found would be helpful for our members and for various organisations and facilitate the creation of European networks in virology.

Dr Annika Linde
President of ESCV

Annika Linde.

Joint annual meeting VAAM/DGHM

September 25–28, 2005
Göttingen, Germany

The two German microbiology societies, the Deutsche Gesellschaft für Hygiene und Mikrobiologie (DGHM) and the Vereinigung für Allgemeine und Angewandte Mikrobiologie (VAAM), will hold their Annual meeting in 2005 together.
The main subjects to be treated will be Intracellular Pathogens, Clinical Microbiology, Molecular Mycology, Regulation of Gene expression and Metabolism, and Systems Biology. Beyond these, also other subjects are welcome in the afternoon sessions and poster sessions. All plenary sessions and nearly all afternoon talks will be given in English.
For further details, please contact the websites of DGHM and VAAM at www.dghm.org and www.vaam.de.

Dr Bernhard Schink
FEMS Delegate VAAM

NVvM established section on Education

On December 14, 2004 the NVvM, the Netherlands Society for Microbiology, held the founding meeting of their new section Education. The meeting was accompanied by a minisymposium on Education and Microbiology. The new section will focus on every aspect of microbiology in all types of education (primary, secondary and higher).
For more information see http://www.fems-microbiology.org/nvvm.

New FEMS Member Society

The Italian Society for Virology (SIV) is a non-profit Association founded in September 2001. SIV has a multidisciplinary organization and merges the scientific and teaching interests of general, medical, pharmaceutical, veterinary and vegetal virologists. The aims of our Society are: i) to promote studies, research, cultural initiatives, exchange, and scientific collaboration among the various areas of virology; ii) to share among virologists scientific and legal aspects in diagnostics, experimentation, prevention, therapy and epidemiology; iii) to promote all sectors of virology in academic and private institutions, including general virology, plant and environmental virology, human virology, clinical virology, and viral biotechnologies; iv) to encourage young researchers interested in molecular genetics, cell and molecular biology, infectious diseases, epidemiology to enter the field of virology. Annual memberships are available to faculty members, research scientists, clinicians, postdoctoral fellows, and students. Categories of membership are: Ordinary Members, Honorary Members and Corporate Members (affiliation is open to any company or other body with interests in virology). Annually, SIV promotes a meeting where young researchers present their work and get the opportunity to gain scientific experience.
Together with other European and International Societies for Virology, Microbiology and Infectious Diseases, SIV would like to discuss common interests in science and education, develop new scientific collaborations and organize opportunities of encounter for elaborating proposals of standardization, quality assurance and control in the field of virology. SIV is member of IUMS and ESCMID since 2002 and FEMS since 2004. SIV collaborated to a number of Societies (American Society for Virology, French Society for Microbiology, Gesellschaft fur Virologie, International Society for NeuroVirology, Society for General Microbiology, Spanish Virology Society).
For any additional information please refer to http://www.siv-virologia.it.

Dr Giorgio Palù
FEMS Delegate SIV

Dr Salata
Member Executive Board SIV

Giorgio Palù.

XXXI. Turkish Microbiological Congress

September 19–23, 2004
Kuşadası, Turkey

This congress was attended by 11 international and 100 national scientists as invited speakers. The Abstracts book included 507 poster presentations. One of the interesting topics was presented by Robert C. Moellering on “The relationship between virulence and antimicrobial resistance in bacteria”. One other entitled “Nanobacteria in medicine and in space studies’’ was presented by Nevra Çiftçioğlu who works in NASA . Some other topics in the congress were: antibiotic resistance; nosocomial infections; treatment regimens in patients with resistant bacteria; avian influenza virus; SARS and coronavirus infections; human genome and susceptibility to infection; Crimean-Congo haemorrhagic fever; bacterial zoonosis in Turkey; multi-drug resistance in *Mycobacterium tuberculosis* and diagnostic tests for chlamydial infections. Study groups of the Turkish Microbiological Society also presented their activities in the congress.

Dr Özdem Ang
FEMS Delegate TMC

Welcome reception at Ephesus antique city.

10th Congress of the Society of Microbiologists of Ukraine

September 14–17, 2004
National Mechnikov University of Odessa, Ukraine

Almost 400 specialists in microbiology, virology, biotechnology and related sciences as well as students and post-graduates took part in the 10th Congress of the SMU. Famous Russian, Byelorussian, Moldavian and American scientists participated in it. 58 oral reports and 165 posters were presented at the plenary and sectional meetings of the Congress. The working groups were formed according to the following directions: general microbiology, soil microbiology and agroecology, biochemistry and biotechnology of microorganisms, genetics and molecular biology of microorganisms, virology, medical microbiology.
The round-table discussion was devoted to the problems of staff training and microbiology/virology teaching.

Prof. Dr Bohdan Matselyukh
FEMS delegate SMU

XXV Jubilee Meeting of the Polish Society of Microbiologists

September 23–25, 2004
Bydgoszcz, Poland

The Polish Society of Microbiologists, which has been established in 1927, has just celebrated its 25th Jubilee Meeting (18th meeting after Second World War) in the beautiful City of Bydgoszcz, Central Poland. The excellent organisation by Prof. Eugenia Gospodarek from the Ludwik Rydygier Medical University in Bydgoszcz made it possible to combine an interesting scientific programme with entertaining accompanying events.
Over 600 participants presented aspects of the actual problems of bacteriology, virology, mycology, hospital infections, as well as food, veterinary, environmental and industrial microbiology. Researchers from Finland, Germany, Netherlands, Great Britain, Russia, Egypt and USA accompanied Polish authors. Oral and poster presentations were included into 34 sessions. A probiotic forum was organised for the first time during this meeting.

Dr Stefan Tyski
FEMS Delegate of the PSM

International Biodeterioration and Biodegradation Society

Note deadline for FEMS Young Scientists Grant: March 31st

Over 120 participants from five continents recently attended the IBBS Conference on Anti-Fouling Strategies in Mülheim/ Germany (September 13–15, 2004). The role of surfaces was elucidated from very different angles. D.C. White (University Knoxville) gave details of a zosteric acid which he and his coauthors currently market as an anti-adhesive coating component which is not harmful to higher organisms. R. Venkatesan (Chennai, India) discussed marine biofouling problems in India and the various strategies to deal with them. As special guest, Joanna Verran from Manchester gave a mesmerizing dinner lecture on "Microorganisms and Art" with numerous examples ranging from famous paintings showing various diseases to using microorganisms for pictures. The conference was considered as a creative, inspiring and interesting platform, allowing not only to ingest new information but also to networking. A CD with the pdf files of the presentations is available for 20 € from the conference secretariat (i.pinders@iww-online.de).
The 13th IBBS Triannual Symposium will be held on September 4–9, 2005, Madrid, Spain. *Of particular note is the deadline for our FEMS Young Scientists Grant Application, which is March 31st, 2005.* We would like to encourage all young scientists with an interest in biodeterioration and biodegradation to apply for funding to attend the meeting.

Dr Jimmy Walker

International Biodeterioration & Biodegradation Society

SfAM: More on MED-VET-NET

Zoonoses – diseases transmissible from animals to humans – are the cause of many of our serious public health problems, and have the potential for severe global consequences.
The European Union (EU) recently identified 23 zoonotic agents, which must be monitored by member states in both human and animal populations. To support this, the EU 6th Framework Program has provided financial support for five years to develop a Network of Excellence for the Integrated Research on the Prevention and Control of Zoonoses – Med-Vet-Net.
Comprising of 16 European partners and over 300 scientists from multiple disciplines, Med-Vet-Net will provide the appropriate environment for these scientists to share and enhance their knowledge and skills, develop collaborative projects and present joint research within and outside the network.
The Network, which commenced on September 1, 2004, is administered by a 'Virtual Institute' which aims to develop an effective management structure to enable the smooth running of the Network. As reported in the previous circular, The Society for Applied Microbiology (SfAM) is responsible for all communication, both between the scientists within the Network as well as externally to the public, media and policy makers.
The Scientific Activities comprise the experts appointed by each Partner institute. There are four thematic areas (Epidemiology, Host-Microbe Interactions, Detection & Control, Risk Research) that will be active throughout the life of the project.

Teresa Belcher (teresa@medvetnet.org)
Communications Director – Med-Vet-Net
Society for Applied Microbiology

MED•VET•NET

20th Congress SEM

September 19–22, 2005
Cáceres, Spain

The scientific program of the 20th SEM´s Congress includes symposia and round tables on a wide variety of topics, including: gene clusters for secondary metabolites; cellular signaling in eukaryotic microorganisms; degradation of aromatic contaminants in soil and groundwater; biosynthesis and molecular genetics of secondary metabolites; teaching microbiology at the university in the new Europe; mycotoxin control in foods; role of fungi as a source of new drugs; and microbiology of water environment.
Activities will also include workshops and poster discussions, with a brief presentation of posters contributions. For further information see: http://micelio.unex.es/sem2005

Dr Carlos Hardisson-Rumeu
FEMS delegate SEM

XX Congreso Nacional Microbiología
Cáceres
SEM 2005
Septiembre, 19-24

FEMS-Jensen award (initiated by J.R. Norris)

The purpose of the award:
To recognize academic achievement and superior research accomplishments showing significant potential to develop an outstanding research career. The award honours Professor Hans Laurits Jensen for helping young scientists in establishing their scientific careers.

Eligibility:
Eligible are outstanding European students of microbiology at the final stages of their PhD studies, or those who received the PhD degree les than two years from the application date. They should be younger than 36 years.

Award:
The FEMS-Jensen award comprises a fellowship for spending at least half a year in an outstanding research laboratory chosen by the student. The maximum award amounts to 10000 EUR. Further, an award certificate, signed by the FEMS President, will be handed to the awardee. The award will be given once every two years.

Application:
Interested candidates are asked to submit their application to the FEMS President via FEMS Central Office in Delft before March 15, 2005. The Award Board will handle the application. The application letter should be accompanied by:
- a curriculum vitae
- two reference letters from wellknown European microbiologists
- an invitation letter from the director of the hosting laboratory
- an outline of the research proposal

Hans Laurits Jensen (1898-1977), a visionary microbiologist

Hans Laurits Jensen (1898–1977), a visionary microbiologist

FEMS has just established an award for young microbiologists, named after the Danish soil microbiologist H.L. Jensen. The award has been made possible by a donation from the British microbiologist Dr John R. Norris CBE, to many of us known as an Editor of Methods in Microbiology and a former FEMS Treasurer. H.L. Jensen was the tutor of Norris and many other soil microbiologists. Jensen was one of the 20th century foremost scientists and teachers in the fields of symbiotic and non-symbiotic nitrogen fixation, soil microbiological activity, and the taxonomy of Actinomycetes, Azotobacter, mycobacteria and coryneform bacteria, as well as a pioneer in microbial degradation of pesticides. Jensen was active in England and Australia, as well as in his native Denmark. The purpose of the FEMS-Jensen award is to encourage young scientists to work in European laboratories outside their own country.

Dr Hans Laurits Jensen was a visionary microbiologist. He had a tremendous insight into several groups of soil microorganisms, nitrogen fixation, soil microbial activity and pesticide degradation. He had an incredible memory and foresaw the importance of the relationship between microbiological nitrogen fixation and fertility and productivity of soil on one hand and the need to study the fate of pesticides in the environment on the other hand. He taught many young microbiologists, including myself, how to reveal the secrets of microbial life.

Hans was born in a small village in Denmark on June 27, 1898. His family were farmers and he would normally become a farmer too, taking over the farm, since he was the only child and his father died when Hans was two years old. However, Hans showed great academic promise in his childhood. His natural modesty made him explain it like this: “In the village school, under an extraordinarily good teacher, I developed a marked taste for reading (may be also due to my status as an only child) and I seem to have developed some abilities to learn by reading and to keep it in my mind.” Many of us who later knew him can confirm this ability.

Jensen continued his education in the nearby town to which he travelled on a horseback. He also received an agricultural education but, as he explains: “My skill and my interest in practical agriculture could not be compared to my desire for knowledge”. Hans Jensen therefore started the study of agricultural sciences at the Royal Veterinary and Agricultural University in Copenhagen from where he graduated in 1920. He continued his studies until 1923 when he was awarded what we today call a PhD. Jensen’s interest in microbiology started at the Agricultural University, where Prof. Dr F. Weis and Dr Harald R. Christensen introduced him to the subject, and continued during his employment from 1923 to 1927 at the Department of Bacteriology of the Danish Institute of Agricultural Sciences.

Unfortunately, the employment situation for scientists in Denmark was very poor in 1927 and Jensen accepted, with great pleasure, the opportunity to spend one-and-a-half year at Rothamsted Experimental Station, UK, taking with him his young wife Helene and their first child. His work with Dr H.G. Thornton was mainly focused on bacteriological processes in manure decomposition. Hans Jensen noted the important research support he had received from several of his Rothamsted colleagues and concluded: “My professional benefit from this stay can hardly be overestimated”. He found himself very attracted to the English mentality and way of life and many years later he still felt that he was “coming home” when he visited Rothamsted.

Even for a scientist with Jensen’s qualities, it was still difficult to find employment in Denmark at that time, but luckily there was a vacant position as a bacteriologist in the Linnean Society of New South Wales, Sydney, Australia. Supported by Sir John Russell, he was appointed to the position in 1929. Typical of his positive attitude Jensen later wrote: ***”When fortune closes one door, it sometimes opens another”.***

The family remained in Australia for 19 years and two more children were born in 1930 and in 1935. Describing this period Jensen wrote: “I had very good possibilities to choose my research topics”. This resulted in a very successful and productive period with studies of taxonomy of e.g. actinomycetes and coryneform bacteria and elucidation of soil microbiological activity and rates of decomposition of organic material in soil as inspired by Dr S.A. Waksman. Jensen also carried out basic studies of soil nitrogen balance. His thesis “Contributions to the Nitrogen

You could often find Dr Jensen at the microscope studying microorganisms.

Economy of Australian Wheat Soils” was thus written in Australia and accepted at The Royal Veterinary and Agricultural University in 1941. His conclusions were that, “the activity of free-living nitrogen-fixing bacteria had only limited importance under these conditions. Crop rotation with leguminous plants or addition of mineral fertilizers was necessary for wheat growing”. Jensen lectured at the University of Sydney, which he found a very developing and enriching experience. One of his instructive examples, which I still remember, was when he told about a young microbiologist who showed him a culture of microorganisms; when Dr Jensen asked him: “Is it a pure culture?” the young chap answered: “Almost”. Jensen’s smile showed us exactly what he meant. Beside his research and teaching in Australia, he contributed to the scientific world as a member of scientific boards and editor of scientific journals.

Jensen found it difficult to come to terms with the fact that German occupation of Denmark in 1940 was so relatively peaceful. Although he did not feel he was treated unfairly by anyone in Australia, he did not feel relief until 1943 when Denmark gave up its somewhat co-operative policy with Germany. Unfortunately his economic opportunities in Australia gradually decreased and when he was invited to apply for the position of head of the Bacteriological department in Denmark that he had left in 1927, he wrote an application and was appointed. Though it was a difficult decision for him, he left Australia in December 1947.

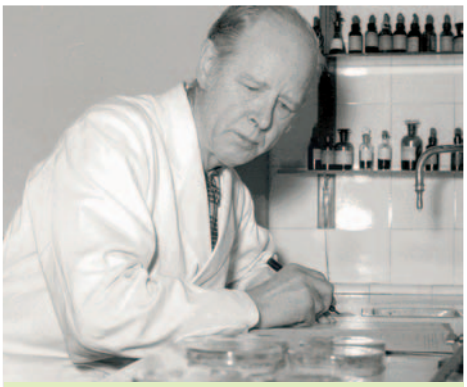
Prodigious publications

As written in the obituary by John R. Norris, "Hans' scientific contribution is prodigious. His publications span the period from 1925 to 1969 and cover many aspects of microbiology. Main themes to his work have been supplied by actinomycetes, coryneform bacteria, and both free-living and symbiotic nitrogen-fixing bacteria. His review of the coryneform bacteria in 1952 and of the Azotobacteriaceae in 1954 are classical contributions to the microbiological literature." Jensen published, as sole or first author, about 170 articles of which about 145 are scientific papers published in Nature, Journal of Applied Bacteriology, Journal of Agricultural Sciences and Archives für Mikrobiologie and during his stay in Australia and Denmark also in Proceedings of the Linnean Society of New South Wales, Australian Journal of Science and the Danish Journal of Plant and Soil Science. He further published several articles in magazines for farmers and biologists. Jensen described the nitrogen-fixing *Azotobacter macrocytogenes* and *Derxia gummosa* and the pesticide-metabolising *Arthrobacter simplex,* which all remain valid species in modern bacterial taxonomy.

As also written by John Norris: " Hans' success stemmed from two attributes; an incredible memory and knowledge of the literature and an outstanding capacity for hard work." An example of his outstanding memory was when, in 1968, I showed him a culture of a bacterium, which could proliferate on the herbicide Endothal, and which on certain media also produced several attractive blue colours. Having heard my story he looked at the culture under the microscope and thought for a short while and then said: " This reminds me of something I have seen described in Zentralblatt für Bakteriologie around 1907". I went to the library and found a similar strain described in the volume of 1907. We identified the bacterium as *Arthrobacter polychromogenes.*

Pioneer in pesticide degradation

Returning to Denmark in 1947, Jensen continued his work with the nitrogen-fixing bacteria. He was responsible for providing carefully selected Rhizobium cultures to Danish farmers for seed inoculation. He also took up microbiological determination of soil nutrients, and he initiated a new research area caused by concerns about the increased use of pesticides for plant protection. His farseeing ability and interest in microbial



Hans studying bacterial cultures on Petri dishes at the laboratory in Lyngby.

first to study the ability of microorganisms to degrade pesticides. Many important pesticides were studied by Jensen and his co-workers or guests, as shown in the Table, and bacteria or fungi that are important for their removal have been identified.

Hans Jensen was one of the first to draw attention to the risk of ground water pollution with pesticides. In 1965 he said in a speech that he held in Denmark: " .... often people rely on another physical process namely the leaching of the compounds with rainwater ..... a very short-sighted policy, a moment of reflection will raise the question about what will happen where the compounds are leached to – even in very diluted form." Hundreds of pesticide-polluted wells that have been closed after the 1990s have taught us how right he was. In 1968 I was lucky to be taught by him how to elucidate the fate of pesticides in soil, and this has been my interest and my living ever since.

Hans L. Jensen (left) receiving the Emil Chr. Hansen award.

Pesticide	Degrading microorganism[a]	Reference[b]
Allyl alcohol	*Pseudomonas sp., Nocardia sp., Trichoderma sp., Azotobacter sp.*	Jensen (1959, 1961)
2,4-D	*Flavobacterium sp.*	Jensen & Petersen (1952)
Dalapon	*Agrobacterium sp.*	Jensen (1959, 1960)
DNOC	*Corynebacterium sp.*	Jensen & Gundersen (1955)
DNOC	*Arthrobacter sp., Pseudomonas sp.*	Jensen (1964, 1966)
DNOC	*Arthrobacter sp., Agrobacterium sp.*	Jensen & Lautrup-Larsen (1967)
Endothal	*Arthrobacter sp.*	Jensen (1964)
MCPA	*Corynebacterium*-like	Jensen & Petersen (1952)
MCA	*Trichoderma sp., Pseudomonas sp.*	Jensen (1957, 1959, 1960)
TCA	*Arthrobacter sp.*	Jensen (1957, 1959, 1960)

[a] Several of the isolated strains were identified.
[b] List of references appear in Norris (1978) and in Henriksen (1968)

Besides being a member of boards of scientific societies, Jensen was also an official external examiner and official opponent at dissertations. He was a member of the editorial committees of Archiv für Mikrobiologie and Soil Science. Jensen also received several honours for his outstanding scientific work. He was an Honorary Member of the British Society for Applied Bacteriology. He received an Honorary Doctorship from the University of Helsinki and was appointed Knight of the Order of Dannebrog and he further received two distinguished Danish awards, the Emil Chr. Hansen award and the gold medal from the Royal Danish Academy of Sciences and Letters in 1971.

Hans L. Jensen has received many honours as a scientist and I am sure he would have loved this international award to support education in microbiology. He once said: "I may be a little ambitious, but power never appealed to me". Nobody saw him as power-seeking, and as written by Norris (1978): "Hans' many visitors and co-workers will agree that to work with him was a privilege and an enriching experience; to experience his kindness and courtesy, to share in the friendly atmosphere of his laboratory and to be welcomed into his home were rare pleasures." Jensen's colleague and successor as director, Aage Henriksen, wrote in 1968: "In Dr Jensen the employees had an inspiring chief with scientific and human abilities far beyond the usual". Jensen's democratic mind was also shown by inclusion of some of his excellent technicians in the list of authors of publications if their input deserved it. Jensen's status in the scientific establishment can also be seen from the many important microbiologists (for example Martin Alexander, D.B. Johnstone, H. Lees, E.N. Mishustin, J.R. Norris, C.A. Parker and Y.T. Chan) who all wrote articles in the memorial volume written for Jensen's 70th birthday.

Norris (1978) explains it perfectly: "How does one sum up and pay tribute to a man like Hans Jensen in terms that he would understand and appreciate? His scientific record speaks for itself; one can only list his publications and marvel at them, recognizing that much of modern soil microbiology rests on the foundation of his pioneering work. But to acknowledge his science is to recognize only part of the man."

Arne Helweg, dr. agro.
Retired research professor at Danish Institute of Agricultural Sciences
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The basis for this article is the references below, information from former colleagues and author's own experience with Hans Jensen as tutor.

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