NEWS Letter

European Federation for Pharmaceutical Sciences December 2002 Vol 11 No4

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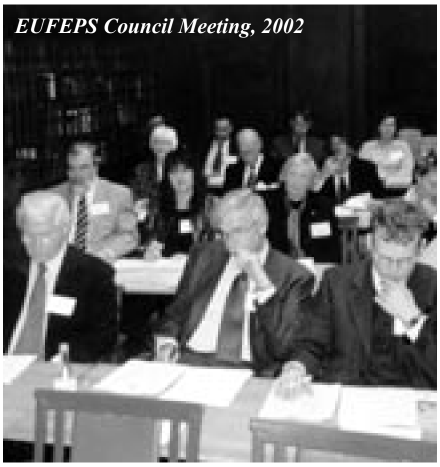
Lay-out
Camilla Boquist/Lådan & Co

President's Report

EUFEPS in 2002

Professor Dominique Duchêne writes:
By the end of the year, one may ask: "What is the news in EUFEPS?" I will try to answer this good question considering two aspects: "What has been achieved in 2002?" and "What is intended for the future?" Of course, I will not give a detailed report on the different activities, but just highlight the novelties.


EUFEPS Council Meeting, 2002

2002 being the first year of our second decennium, it was necessary to demonstrate a new direction and some successes in newer activities.

For years, we were intending to launch high-level post-graduate (or continuing education) training courses. After discussing several topics, we started with "High-throughput Drug Metabolism/ Disposition" a two-week course held in Noordwijkerhout (1-5 July 2002) and Amsterdam (8-12 July 2002). Thanks to Bernd Clement (Chair of the International Scientific and Planning Committee), Nico P.E. Vermeulen and Jan N.N. Commandeur (course leaders), this event was a true success with some 20 participants. We intend to repeat this event in 2003, perhaps making it a little shorter because of the difficulty in being two weeks away from work. Of course, we have other topics that are already planned such as Biological Sequence Analysis or Combinatorial Organic Chemistry.

Another project during the last two years at least was the renewal of the Elsevier contract for our European Journal of Pharmaceutical Sciences. The goal was to have a contract recognising a true partnership in this publication. Discussions ran for more than one year, but we are on the point of signing a fair and model agreement in which the input of both parties will be recognised and respected.

A true success for this year has been the official recognition of the efforts carried out by our President-Elect, Ole J. Bjerrum, to promote the concept of New Safe Medicines Faster, launched three years ago with a workshop held in Brussels under the auspices of the European Commission. Due to Ole Bjerrum's persistence, this concept has been integrated into the EU 6th Framework Programme for Research and Technological Development with the words "rational and accelerated development of new, safer, more effective drugs" in the chapter dealing with Genomics and Biotechnology for Health. This means that for the first time, medicines are recognised as research domains appropriate for strong financial support from the European Commission. As just one example, EUFEPS is supporting an ULLA Expression of Interest for a European network of excellence on "Individualisation of Medicines in the Post-Genomic Era".

Undoubtedly, the greatest event of 2002 was our Congress held in Stockholm from 20 to 23 October 2002. Following the congresses held in Amsterdam, Berlin, Edinburgh, Milan, Budapest, the Stockholm congress was the first one to be entirely organised by EUFEPS. The main topic of congress was New Safe Medicines Faster (see the Conference Report in this Newsletter).

A project we had in mind for months was to strengthen our relations with both the European Association of Faculties of Pharmacy and the European Pharmaceutical Students' Association (EPSA). We had two half-day joint meetings in Stockholm on 18 and 19 October 2002. We intend to have such meetings regularly.

2002 was also the year when EUFEPS had to renew its four-year Strategic Plan. After many

February 15, 2003, is the deadline for announcements and manuscripts for the next issue of the EUFEPS Newsletter

The 2002 Council Open Forum and Meeting were held on October 20, 2002, in the premises of the Swedish Pharmaceutical Society in Stockholm. Major items on the Agenda included: EUFEPS Strategic Plan 2002-2006 (approved), how to coordinate activities of EUFEPS Member Societies and Liaison Organisations, and elections to the EUFEPS Executive Committee. Pictured (from left, above) are Michel Veillard and Atilla A. Hincal (former Executive Committee Members), as well as Bernd Clement (current member), Ole J. Bjerrum (President-Elect), and Dominique Duchêne (President).

discussions between myself, Ole Bjerrum, Hans Lindén, and the entire Executive Committee, we were able to present the third EUFEPS Strategic Plan (2002-2006) which was adopted by the Council in October 2002. This strategic plan represents a real evolution in EUFEPS. The first two plans aimed at creating and strengthening EUFEPS so that it reached European and wider recognition. With these objectives achieved, the new plan emphasises the importance of broad collaboration, co-ordination and co-operation with our members, Member Societies, and all European scientific organisations (including drug regulatory agencies and pharmaceutical companies). We have the permanent objective of advancing the pharmaceutical sciences and innovative drug research in Europe. Collaboration at the world level with FDA, AAPS, FIP is also analysed. New activities are defined such as editing activities (scientific book series), or the organisation of a completely new type of scientific event: a Fair of Pharmaceutical Sciences, which is intended for 2005 in Nice, France.

The strategic plan very naturally leads us to consider what new activities EUFEPS will have next year.

What is planned for 2003?

We are setting up a Committee on Academic Relations, which will increase and facilitate our collaboration with academia, and create events and projects attracting academic participation.

On 17-18 February 2003, in Basel, we will have our first “exchange” event with AAPS: A workshop on “Assuring Quality and Performance of Sustained and Controlled Release Parenterals”. This exchange series comprises importing into Europe successful AAPS events, to be organised by EUFEPS, and in turn, exporting successful EUFEPS events to be organised in USA by AAPS. The event we will export is the Strasbourg 2001 Conference on “Rational Design of Drug Materials and Drug Delivery Systems”.

The Strasbourg 2001 Conference could also be seen as the precursor of a new series of EUFEPS Conference on “Optimising Drug Delivery and Formulation”. The series will start with “New Challenges in Drug Delivery”, in September 2003, chaired by Patrick Couvreur, Elias Fattal and Per Artursson. It will take place in Paris/Versailles.

In May, we will have our second meeting with the European Association of Faculties of Pharmacy (EAFP) and the European Pharmaceutical Students’ Association (EPSA), probably in Athens. One of our objectives is to map the Drug Research and Development post-graduate studies in Europe.

Of course our well-established events, such as the Optimising Drug Development Conference, will continue, as usual, in Basel in December.

In 2003, we will organise a number of meetings to prepare the 2005 Fair of Pharmaceutical Sciences, on which 15 to 20 European scientific societies are already working with EUFEPS. Let me remind you that the Fair brings together during the same week (12 - 17 June 2005), in the same place (Nice Acropolis conference centre), EUFEPS member societies and European scientific societies to organise, on the platform of EUFEPS, meetings, congresses as well as symposia, dealing with the different pharmaceutical sciences or disciplines.

As you see 2003 will be not only a busy year, but also a very scientifically exciting year.

Professor
Dominique Duchêne
EUFEPS
President

News of EJPS

European Journal of Pharmaceutical Sciences (EJPS) now has an Impact Factor of 1.8; an impressive increase over the factor of 1.2 in 2000. There are many benefits to publishing in the journal. EJPS is available online through ScienceDirect several weeks before publication in print. You can track citations of your own article via e-mail through ScienceDirect.

EJPS has an average publication time of 13 weeks from acceptance to print. And, with ContentsDirect, you are automatically alerted to contents of the current issues in advance (register at www.elsevier.com/locate/contentsdirect)

If you are interested in submitting a relevant paper to the official journal of the European Federation for Pharmaceutical Sciences, please go to http://authors.elsevier.com/gfa/ejps.

European Journal of Pharmaceutical Sciences seeks Drug Regulatory Affairs Experts

Are you able to bring the latest developments in European Regulatory Affairs to the attention of the Journal readership? EJPS is seeking two or more volunteer reviewers who can scan relevant web-sites and interpret the new information about pharmaceutical regulation from the European Medicines Evaluation Agency (EMEA) and the European Commission. Clear concise summaries with accurate references are required in English 3 to 4 times a year.

Places on the Journal Editorial Board may be available to appropriate individuals.

If you are interested in this opportunity to contribute to New Safe Medicines, please contact the Journal Editor, Professor Arto Urtti at arto.urtti@uku.fi immediately

Arvid Carlsson, Hans Wigzell and Klaus Müller, Opening Speakers of the EUFEPS 2002 Congress

Congress Report

7th EUFEPS Congress of Pharmaceutical Sciences, Stockholm, Sweden

The path to New Safe Medicines

It is difficult to imagine circumstances in which any group will willingly give back part of its approved budget. Yet that is exactly what EMEA (The European Medicines Evaluation Agency) has done recently. Disturbingly, the Agency finds that the anticipated number of New Drug Applications (NDA) has not been forthcoming. This is a stark illustration of the apparent downtown in productivity in pharmaceutical R&D.

Two years ago, Professor Ole Bjerrum (now Professor at the Royal Danish School of Pharmacy) enthusiastically took it upon himself to promote the concept of "New Safe Medicines Faster". Largely through his unwavering support, NSMF became the theme of the seventh EUFEPS Congress in Stockholm. The ultimate goal of NSMF is to serve patients with medicines that safely meet their needs. A subsidiary goal will be to reverse the trend of dwindling productivity that the EMEA situation has so starkly highlighted. The EUFEPS Congress provided a forum where scientists could meet, discuss these two objectives and debate the so-called 'crisis for big pharma'.

The meeting was held in the splendid Stockholm Exhibition Centre and attracted some 650 pharmaceutical scientists from industry, academia and drug regulators. The delegates were drawn from 38 countries (including many from outside Europe) with about 50% coming from industry. Two high-ranking officials from the European Commission also attended. A small exhibition was set up in the same hall as the impressive display of over 200 posters from both industry and academia.

The opening plenary session provided an interesting contrast between the approach to CNS drug discovery described by Professor Arvid Carlsson – intuitive, experience-based and pragmatic and the Roche approach described by Dr Klaus Müller who stressed the need for ever increasing technological innovation in drug discovery. The meeting felt that both approaches had merit and were perhaps more complementary than divergent. Carlsson's examples of partial agonists showed that the most potent drug is not necessarily the best drug; other factors may be as important as potency. Professor Hans Wigzell – head of the Karolinska Institute - gave a lively presentation on the activity of his institute whose 3000 scientists are undertaking no fewer than 11,000 projects.

To me it is always a benchmark of the quality of a conference if I have difficulty in choosing between several good concurrent tracks. By this criterion, EUFEPS 2002 was high quality. I shall pick out a few highlights from the sessions I attended. There were 3 full sessions; plenary and speakers, on excipients. Although this was clearly an important part of the congress, I can only report that I missed presentations on:

- new excipients – inulin and cyclodextrin derivatives
- safety aspects – gelatine, residual solvents and metal catalyst residues
- regulatory aspects – regulatory, legal and industrial perspectives.

These sessions were sponsored by IPEC (International Pharmaceutical Excipients Council) whose newsletter and website I commend to interested readers (www.ipec.org.europe.htm)

Plenary Presentations

Dr Theo Güntert from Hoffman La Roche gave a very good presentation on the importance of "developability" in the selection of candidates to go forward to full development. He emphasised the need for early testing to be discriminating while predictive of potential future problems, especially with respect to specific organ toxicity in humans. He recommended focus on absorption, metabolic stability, interaction potential and tissue penetration as important predictors of future problems. He also liked the idea of human testing at very low doses (microdosing) under a screening IND.

The rapidly evolving topic of computer simulation of pharmacokinetics (PK), of pharmacodynamics (PD) and of clinical trials was a theme that ran through the congress. Colin Pillai – a colleague of Jean Louis Steimer at Novartis – noted that clinical trial modelling can be an extension of the well established techniques of PK modelling into difficult areas such as cancer and paediatric studies. The FDA is not only accepting modelling and simulation (M&S) as a tool at early stages but is using M&S techniques itself to evaluate NDAs. M&S clearly can assist the NSMF concept.

In a dramatically contrasting plenary lecture, Dr Arne Brodin discussed how formulation development of two old products, Xylocaine and Metoprolol has proceeded in Astra and subsequently AstraZeneca. He told a beguiling story of the search for new formulations to meet new needs. Although lidocaine was discovered in the late ’30s, AstraZeneca has submitted a proprietary formulation NDA as recently as June 2002. Again, new medicines benefit of consumer and company alike.

In the next plenary lecture, Professor Jan Lundberg, Head of Discovery Research described how AstraZeneca is facing up to the challenge of increasing its productivity. His opinion was that an economy of scale is achieved in large corporations in that they can balance risks by having a wider and deeper portfolio of projects than smaller companies. He also said that prediction of toxicity and safety is the biggest challenge and a key area in which to gain strategic advantage.

Carl Johan Dalsgaard is a partner in one of Europe’s biggest specialist healthcare venture funds. His commercial view was that only innovative biotech companies offer hope for the future. He claimed that they will be the great value creators of the future and feed big pharma who will increasingly become, in his words, contract development organisations for the biotechs.

Speaker Sessions

The standard of the speaker sessions was in general very high. The presentations were pitched at the right level, clearly illustrated and well delivered, considering that the majority of presenters were not using their first language.

Franck Leveiller and Ruth Duncan addressed how covalently bound polymers can aid drug delivery and produce in one sense “nanomedicines” – contrasting to what Dr Müller said in his plenary that current drug discovery is largely on a micro-scale. Dennis Smith from Pfizer can always be relied on to give an interesting and challenging presentation. He backed up the call for more *in silico* modelling especially in the ADME area.

Following this lead Dr Schaeffer from Boehringer Ingelheim emphasised that good modelling can only come collaboration between chemists, clinical triallists, statisticians and particularly physicians.

Andy Grieve from Pfizer addressed the concept of adaptive design in clinical trials. In this scenario, a computer assigns doses to patients based on the response of the previous patients – the computer unblinds the study while the study remains double blind to the supervising human staff. Peter Milligan, also from Pfizer, showed how modelling can reduce patient numbers while increasing statistical power.

A further speaker session dealt with prediction of drug metabolism based on early studies. The challenge of this area, exemplified in the talk by Nico Vermeulen from Leiden, remains the prediction of turnover rates even if CYP450 affinities can be predicted with reasonable accuracy.

In his discussion of proof of concept studies, Rainer Schulz of Quintiles drew distinction between surrogate markers (well validated clinical measurements) and biomarkers (less validated ones). He drew a further distinction between clinical evidence of concept, of which we get much, and clinical proof of concept, which is rare.

Richard Jones from Johnson&Johnson commented that much of today's early drug discovery is identifying drug candidates that are not drug-like. He felt the primary challenge for drug discovery will be the integration of new knowledge with new technologies.

Adam Cohen (from the Centre for Human Drug Research, Leiden) gave a lively, if not very encouraging, explanation of the lack of innovation in big pharma. His solutions include increasing Research, especially into pathogenesis and biomarkers, while decreasing Development by killing drugs earlier.

The final speaker session addressed human and animal models in CNS disease. Professor Berend Olivier described his mutant, anxious mouse while Søren Sindrup discussed how human neuropathic pain models can distinguish codeine from imipramine.

The Afternoon Specials sessions, designed to widen the horizons of the more bench- and office-based drug development scientists, dealt with finance, ethics, EU expansion and importantly the EU 6th Framework Program. A separate report will be issued for the European Commission who sponsored these interesting sessions.

Conclusions

Professor Bjerrum summarised the meeting. Overall he thought that the NSMF initiative had been well addressed by the conference. A good balance had been achieved, but there may have been too many parallel sessions. The Afternoon Specials seemed to have been very successful and allowed delegate-speaker interactions in a novel way, to the benefit of both. The President of EUFEPS, Professor Dominique Duchêne announced that Brussels will be the site of the eighth Congress in 2004. I urge those who did not attend this excellent Congress to look out for announcements of the eighth meeting and to book places! *Graham Hughes*

Delegates attending one of the Afternoon Specials of the EUFEPS 2002 Congress in Stockholm. Eleven Specials, all sponsored by the European Commission, attracted a substantial number of the Congress delegates, on the first two days of the Congress.

The Pharmacopoeial column

When I saw my first contribution on Pharmacopoeial topics in the September 2002 EUFEPS Newsletter, I had a surprise: between my good intentions, a review of my dutch/english writing by our Editor and the final printing something magic happened and the European Pharmacopoeia became the oldest!

To avoid making enemies, here are some facts to put the record straight:

- the United States Pharmacopoeia Convention started in 1820, and the 2005 Convention will be celebrating 185 years of voluntary efforts provided by medical doctors, pharmacists , scientists involved in pharmaceutical sciences as well as associated health professionals. USP/NF is the oldest of the three "big" regional Pharmacopoeias.
- the Japanese Pharmacopoeia is second. Two Dutch pharmacists, Geerts and Dwars, in service of the Japanese government compiled, on request of that government, a Pharmacopoeia Japonica based on the Pharmacopoeia Nederlandica. Presented in Dutch, it was ready for translation into Japanese in 1877. A copy of this draft is kept in the Naito Museum for the History of Pharmacy close to Tokyo. For unknown reasons, this version was never published.

A new pharmacopoeia committee was appointed in December 1880; it was composed of five European and nine Japanese members. Among the Europeans there were three Dutch scientists: Johan Eijkman (his brother Christiaan received the Nobel prize for medicine for work in the field of physiology in 1929; he discovered the source of beri-beri, a tropical disease) professor at Tokyo University, Antonie Geerts "Foreign Director" of the Governmental Laboratory at Yokohama and the medical doctor T.W. Beukema working at the Yokohama Hospital. Dr. Nagayo, president of the Central Board of Health, was chairman.

It should be known that all professors of the medical faculty of Tokyo University were German at that time except for Eijkman. It is no surprise that the Pharmacopoeia Germanica was chosen as starting point for the Pharmacopoeia Japonica Editio Prima. In 1886 the first, and in 1891, the second edition were published as prepared by this international committee. Later on, the committee became fully Japanese.

- the youngest one, but based on some very old national ones and solid cooperation, is the European Pharmacopoeia. Started in 1964, it is now in its 4th Edition with Supplements and will be celebrating 40 years and the 5th Edition in 2004.

Henk J. De Jong

Plant Extracts from Hungary

The Research Institute for Medicinal Plants has collected and botanically identified more than 700 plants from the Carpathian basin in Hungary. These plants are not used in the medicine and are not regarded as medicinal plants. From this collection about 2000 extracts were prepared under various conditions of polarity. Now we have about 1200 purified extracts (each are 50 mg in powder form), which are characterized with HPLC or with TLC/densitometry. In the frame of a research collaboration, we are looking for partners who may be interested to buy these extracts for high throughput screening. In case of positive responses, we could isolate pure compounds. Please contact:

Prof. Dr. Dr. Sz. Nyiredy, D. Sc.
General Director, Chairman of the Board
Research Institute for Medicinal Plants
H-2011 Budakalász, P.O. Box 11, Hungary
Phone: (36) (26) 340 203, (36) (26) 344 042
Fax: (36) (26) 340 426
E-mail: rimp@axelero.hu

Pharmaceutical Scientists

If you have recently received a new appointment, or won an award or joined a task force of interest, please let me know so that your news can be included in a “Scientists” section of a future issue of the EUFEPS Newsletter.

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Elections to the
EUFEPS Executive Committee

At the EUFEPS Council meeting on October 20th, four new members were elected to the Executive Committee and Professor Paoletti was re-elected.

Professor *Conny Bogentoft* is the Managing Director of Karolinska Innovation AB in Sweden. After post-doctoral research in Chemistry, he worked in the development of many pharmaceutical products and drug delivery systems with various Swedish companies. He served as the chairman of the Swedish Pharmaceutical Society, 1994 – 2002.

Dr *Altan Demirdere* is Country President and Head of Pharma for Novartis in Turkey. After graduating in Pharmacy from Istanbul University, he received a Ph.D in Pharmaceutical Technology in Basel, Switzerland. Since 1984, Dr Demirdere has held positions of increasing responsibility in Sales and Marketing for Sandoz and then Novartis, in Central and Eastern Europe.

Professor *Christian Noe* is Ordinarius (full professor) of Pharmaceutical (Medicinal) Chemistry and Dean of the Faculty of Natural Sciences and Mathematics of the University of Vienna, Austria. (In addition, he is Chairman of the Faculty Committee for Pharmacy). After graduating in chemistry and pharmacy, he has researched extensively in pharmaceutical chemistry in both Austria and Germany. Currently Professor Noe’s research interests include new CNS drugs, ‘antisense’ oligonucleotides, proteomics and glycoproteins.

Professor *Aleš Mrhar* is the Head of the Chair Biopharmaceutics and Pharmacokinetics, in the Faculty of Pharmacy, Ljubljana, Slovenia. After graduating in pharmacy, Prof. Mrhar conducted post-doctoral research in the USA and Italy. His current research interests include *in vitro* and *in vivo* tests in biopharmaceutics, pharmacokinetics and drug delivery. In 1996, Professor Mrhar was elected president of the section of Pharmaceutical Sciences of the Slovenian Pharmaceutical Society.

Professor *Rodolfo Paoletti* is Professor and Chairman of Pharmacology in the School of Pharmaceutical Sciences at the University of Milan, Italy. After graduating in medicine, Professor Paoletti researched in the UK and the USA. He has held his current appointment since 1970. His major research interests are cholesterol synthesis and metabolism as well as the role of cholesterol and lipoproteins in physiology and pathophysiology. During his career he has received five honorary degrees in Medicine and in Pharmacy and he has been President of the International Atherosclerosis Society and of the European Society of Pharmacology. Presently Professor Paoletti is president of the Italian Society of Pharmaceutical Sciences.


Professor Conny Bogentoft


Dr Altan Demirdere


Professor Christian Noe


Professor Aleš Mrhar


Professor Rodolfo Paoletti

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CALENDAR

APS Inhalation 2003

February 3-4, 2003, London, UK
Contact: Academy of Pharmaceutical Sciences,
840 Melton Road, Thurmaston, Leicester
LE4 8BN, UK, Fax +44 116 2640141
Email apsgb@associationhq.org.uk
www.apsgb.org

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Properties and Processing of Pharmaceutical Powders

February 3-5, 2003, London, UK
Contact: European Continuing Education
College, 24 Menlove Gardens North, Liverpool
L18 2EJ, UK, Fax +44 151 7371070
Email register@ecec.co.uk, www.ecec.co.uk

*

Groundbreaking Workshop on Assuring Quality and Performance of Sustained and Controlled Release Parenterals

February 17-18, 2003
Basel, Switzerland
Contact: EUFEPS Secretariat
P.O. Box 1136, SE-111 81 Stockholm, Sweden
Fax +46 8 4113217, Email secretariat@eufeps.org
www.eufeps.org

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APS Protein Delivery 2003

February 19-20, 2003, London, UK
Contact: Academy of Pharmaceutical Sciences
840 Melton Road, Thurmaston, Leicester
LE4 8BN, UK, Fax +44 116 2640141
Email apsgb@associationhq.org.uk
www.apsgb.org

*

Stabilization and Formulation of Therapeutic Proteins and Peptides

March, 25-26, 2003, Stockholm, Sweden
Contact: Maria Norrlander, Swedish Academy
of Pharmaceutical Training
P.O. Box 1136, SE-111 81 Stockholm, Sweden
Fax +46 8 205511
Email maria.norrlander@swepharm.se
www.swepharm.se

British Toxicology Society Annual Congress

March 30- April 2, 2003, Edinburgh, Scotland
Contact: BTS Administrative Office
P.O. Box 249, Macclesfield, SK11 6FT, UK
Fax +44 1625 267879
Email btsregistration@resources.demon.co.uk

*

The New European Note for Guidance on Bioavailability and Bioequivalence. A new Experience and a Step Towards Harmonization

April 12-13, 2003, Lisbon, Portugal
Contact: Portuguese Society for Pharmaceutical
Sciences, Av. Das Forcas Armadas
PT-1600-083 Lisbon, Portugal
Fax +351 21 7946400, Email spcf @ff.ul.pt

*

1st Congress of the Portuguese Society for Pharmaceutical Sciences (SPCF)

April 13-16, 2003, Lisbon, Portugal
Contact: Portuguese Society for Pharmaceutical
Sciences, Av. Das Forcas Armadas
PT-1600-083 Lisbon, Portugal
Fax +351 21 7946400, Email spcf @ff.ul.pt

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26th EPSA Annual Congress

April 21-27, 2003, Portoroz, Slovenia
Contact: Student´s Section of Slovenian
Pharmaceutical Society (SSSFD)
Askerceva 7, SI-1000 Ljubljana. Slovenia
Fax +386 1 4340745
Email epsa 2003@yahoogroups.com
www.epsa2003.net

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CSPS 6th Annual Symposium on Pharmaceutical Sciences: The Science of Drug Discovery & Development

May 28-31, 2003, Montreal, Canada
Contact: Canadian Society for Pharmaceutical
Sciences, 3118 Dentistry/Pharma Centre
University of Alberta, Campus, Edmonton
Alberta, Canada T6G 2N8, Fax +1 780 4920951
www.ualberta.ca/csps/symposium2003

Performing Clinical Trials of Cell Therapy

June 16 or 17, 2003 (preliminary)
Copenhagen, Denmark
Contact: EUFEPS Secretariat
P.O. Box 1136, SE-111 81 Stockholm, Sweden
Fax +46 8 4113217, Email secretariat@eufeps.org
www.eufeps.org

*

Basic Pharmacokinetics: A one week workshop

July 6-11, 2003, Arosa, Switzerland
Contact: Susan Huzar, School of Pharmacy
University of Manchester
Manchester M13 9PL, UK
Email susan.huzar@man.ac.uk
www.pharmacy.man.ac.uk

*

9th International Congress of the European Association for Veterinary Pharmacology and Toxicology

July 13-18, 2003, Lisboa, Portugal
Contact: Prof. Eduardo Marques Fontes
Faculdade de Medicine Veterinária, Seccao de
Farmacologia e Toxicologia, Rua Prof. Cid dos
Santos, Polo Universitário do Alto da Ajuda
PT-1300-477 Lisboa, Portugal
Fax +351 213 652898
Email eavpt2003@fmv.utl.pt
www.fmv.utl.pt/eavpt2003/congress.htm

*

EUROTOX 2003

September 28 – October 1, 2003, Florence, Italy
Contact: Cristina Bolsi or Emanuela Folco
Fondazione Giovanni Lorenzini, Via A. Appiani 7
IT-20121 Milan, Italy, Fax +39 2 29007018
Email info@lorenzinifoundation.org
or info@eurotox2003.org

1st EUFEPS Conference on

Optimising Drug Delivery and Formulation: New Challenges in Drug Delivery

September 29 - October 1 • 2003 • Paris/Versailles • France

Organised with the Association de Pharmacie Galénique Industrielle APGI

Key Topics and Issues
- How to find the best targets for drug delivery?
- How will pharmacogenomics contribute to new drug delivery systems?
- How can biological barriers be overcome?
- How can physico-chemistry help to conceive new drug delivery systems?
- Are current Drug Carriers a shot in the dark? If so, what could be the next generation?
- How to lead clinical studies with new delivery systems?
- How will new delivery systems be examined by regulatory agencies?

Breakout Sessions
There will be a number of breakout sessions.

Sample topics for discussion are:
- How molecular modelling can help drug delivery
- Ideal biological targets for drug targeting
- Toxicological aspects for drug delivery and targeting
- Pharmacogenomics as a tool for drug delivery

Posters and Exhibition
Poster abstracts are welcome. For submission deadline and editorial instructions, see the Second Announcement of this Conference, to be circulated in spring 2003. Companies are invited to exhibit at the Conference.

Additional Information
EUFEPS Online and the APGI Website, as well as the EUFEPS or APGI Secretariats:

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