

MedChemWatch

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4

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Editorial



Dear Colleague,

the European Medicinal Chemistry Community is still facing the problem that in some countries Medicinal Chemistry is not considered to be an independent scientific field. The Perspective article in this issue, written by Henk Timmerman, gives a pronounced view on this situation and I highly encourage you to send your comments to this article to gerhard.f.ecker@univie.ac.at.

The EFMC is putting a lot of efforts into promoting Medicinal Chemistry as a scientific discipline by organising and co-organising major scientific events in the field. Our main scientific event is the International Symposium on Medicinal Chemistry (EFMC-ISMIC), which will take place this year in Vienna, August 31 – September 4. Registration is already open and the deadline for submitting abstracts is April 10. Last year EFMC and the Medicinal Chemistry Division of the American Chemical Society launched a new meeting series, Frontiers in Medicinal Chemistry, which had its first, very successful event in Siena in October 2007. The next meeting will be organised together with our colleagues from Spain in October 2009. Last but not least EFMC and ChemBridge Corporation each odd year jointly organise the ASMC meeting - Advances in Synthetic and Medicinal Chemistry, which took place last August in St.Petersburg and attracted more than 600 scientists. Besides these major activities EFMC sponsors more than 10 events and schools each year. In an effort to increase the information content of our web-page we will soon offer the possibility to download the abstract books of our sponsored events, if the organisers agree.

MedChemWatch is now starting into the second year and we would like to encourage you to participate more actively by sending your comments, proposing topics and providing us with information important to the field, so that we can fulfil our aim of promoting exchange of ideas, thoughts, and visions for the future of Medicinal Chemistry. To ensure that we are using the correct e-mail address, or if you would like to receive the newsletter directly in your mailbox, please register on our web-page www.efmc.info.

Gerhard Ecker
Editor



EFMC
European Federation
for Medicinal Chemistry

Perspective

Medicinal Chemistry, interdependent, but independent: where to place it in academic curricula?

BY HENK TIMMERMAN



Medicinal chemistry is a young discipline which emerged from organic chemistry during the years after World War II. Originally - not surprisingly - many chemists considered the new field as a special branch of organic chemistry and not seldom as a poor kind of organic chemistry. The medicinal chemists were blamed just to synthesize compounds more or less at random, not being interested in the basics of organic chemistry; obviously it was forgotten that the new field had its own basics, i.e. the biological activity of (organic) molecules making them attractive as active principle of medicines.

A major feature of medicinal chemistry is its interdisciplinary nature; Alfred Burger called it in his well-known books as being interdependent, but independent. Besides organic chemistry a number of other disciplines contribute to medicinal chemistry: biochemistry, pharmacology, molecular biology, medical sciences, analytical chemistry, computational sciences,..... It is the integration of the contributing sciences which constitutes medicinal chemistry, making it a unique discipline.

Several definitions have been given for the field; all paying full attention to the interdisciplinarity. The International Union of Pure and Applied Chemistry has concluded the following definition: medicinal chemistry is a chemistry-

based discipline, also involving aspects of biological, medical and pharmaceutical sciences. It is concerned with the invention, discovery, design, identification, and preparation of biologically active compounds, the study of their metabolism, the interpretation of their mode of action at the molecular level and the construction of structure-activity relationships.

The young discipline developed rapidly and became a major contributor to the art of drug discovery. In finding its independent place in the hall of science it encountered two major problems. The first is that the discipline did not get the same name in all countries or languages. It is also known as *Chimie Therapeutique*, or *Pharmacochemistry*; more disturbing is that in many countries the field is referred to as *pharmaceutical chemistry*. *Pharmaceutical chemistry*, however, is a much older pharmaceutical discipline, which focuses on the chemistry of finished medicines (especially analytical chemistry). In fact the Div. Med. Chem. of the American Chem. Soc. is the successor of the ACS "Div. of Chemistry of Medicinal Products", which on its turn emerged from the "Div. of Pharmaceutical Chemistry". It is highly recommendable to use internationally one name - in translation where needed - for the discipline! The other problem concerns the place of medicinal chemistry in academic curricula. It seemed that each university decided in an opportunistic way where to introduce the new field. In

several universities it received a place in the Faculty of Pharmacy, but in many others it was ranked under chemistry, sometimes under the chair of organic chemistry, sometimes as an independent department; even within one country one can still find, from university to university, medicinal chemistry in different faculties.

One might say that the two "problems" are of minor importance or meaning. The contribution to the advancement of science, to the development of better medicines, to the improvement of health care, is what should count. The point is, however, whether these "objectives" can be achieved in a most optimal manner when the observed problems have not been removed! Two recent observations make clear that medicinal chemistry still suffers from both problems,

■ Within the European Union the Innovative Medicines Initiative (IMI) aims at strengthening of the position of the European pharmaceutical industries. Major financial means will be made available to promote the process of the development of new medicines; better, safer, faster are the words used to illustrate the objectives of IMI; industries and academia both should contribute to achieve the results wanted. It is extremely remarkable that in all IMI related documents medicinal chemistry is not even mentioned as a main contributor to the design and development of new medicines. It seems that several non-medicinal chemists

still do not recognize or acknowledge medicinal chemistry as an independent discipline. This is bad, not only for the discipline and its professionals, but especially for the whole process: medicinal chemistry plays a crucial role in the development of new medicines.

■ Recently the EFMC committee on Training and Teaching Medicinal Chemistry aimed at providing an inventory of all programmes available at European universities towards degrees in Medicinal Chemistry: bachelor-, master-, and Ph.D-programmes. An inquiry form was sent to all national representatives of the EFMC council. In a numerical sense the response was not bad; about 75 % council member's sent the filled in forms back. The information received, however, showed an enormous diversity. Where information on medicinal chemistry had been asked, it became clear that in a large number of countries the term Medicinal Chemistry is not even used; it is still the old and not appropriate name Pharmaceutical Chemistry which is ap-

plied, as well as Chimie Therapeutique or Pharmacochimie. Only in a limited number of universities degrees in medicinal chemistry can be obtained. It should not surprise that when even professionals have not succeeded to guarantee an appropriate name and uniform place in academia for their own discipline, this discipline will not receive the full attention of non-specialists, such as the case for the members of the committee that is responsible for the implementation of IMI.

What could be done to improve the situation, to get the full recognition for the merits of medicinal chemistry as a major contributor in drug development, to assure that medicinal chemistry and medicinal chemists can contribute to reaching the goals of the IMI programme? A first step - and each journey, also long journeys start with a first step as we all know - is an initiative in each country, by medicinal chemists, to assure that one and the same definition of the discipline is used, in-

troduced by the same name - medicinal chemistry - or a proper translation thereof. When it is really wanted to improve on the situation and to promote the discipline, each national organization on medicinal chemistry, or in certain countries individual medicinal chemists, should raise their voice. Subsequently it is needed to find an appropriate place for the discipline in the curricula and to install the possibility to obtain degrees in the discipline, just as one can become an organic chemist, an analytical chemist, a biochemist or a pharmacologist.

It is a task for the EFMC and all its adhering organizations to take action along the lines described in the preceding paragraphs, not especially for the medicinal chemists, but first of all to guarantee that "society" can benefit optimally from the important contributions the discipline has to make to the process of the design, synthesis and development of better and safer medicines. ■

Medicinal Chemistry in India

Drug Discovery & Intellectual Property Scenario in India: *Reorienting the Medicinal Chemistry Syllabi*

BY NOEL J. DE SOUZA



A critical element that has influenced an altered status for medicinal chemists in India is the globalization phenomenon pervading emerging countries like India, pursuant to its participation in GATT and WTO agreements. As a consequence of TRIPS, India has promulgated the India Patents (Amendments) Act, 2005, which permits that product patents, and not only process patents, are grantable for foods, drugs and medicines. Pre-1995, there was merely a thimbleful number of

multinational pharmaceutical companies engaged in drug discovery efforts. To find a medicinal chemist then was like looking for an "exotic needle in a haystack". Post-1995, a few leading major Indian pharmaceutical companies did also enter the game of drug discovery. The demand for medicinal chemists began to grow. Post-2005, both multinational and major domestic pharmaceutical companies in India are experiencing a paradigm shift from business-driven research to research-driven business, with an increased R&D thrust focused not only on development of innovative/indigenous

processes for known drugs but also on the discovery of new drugs. The medicinal chemist workforce engaged in innovation, now approximates five hundred in number, is forecast to double in 1-2 years. Expatriates are increasingly being attracted to return to India by the burgeoning drug discovery industry.

The training models used with the medicinal chemists also underwent a change. **Figure 1** depicts a simple "old-fashioned" model to discover drugs in a natural products research programme

during the 1970-1990s. Despite having to operate in a small Indian facility, isolated from the sophistication available in laboratories of the developed world, the team produced two molecules that have received international acclaim for being the first unique molecules of their class, viz. (a) Forskolin, a diterpenoid adenylate cyclase activator, a semi-synthetic analog of which has been introduced in Japan by Nippon Kayaku for congestive cardiomyopathy, and (b) Flavopiridol, the first cyclin-dependent kinase inhibitor, in advanced clinical trials for prostate cancer.

Figure 2 depicts the later updated model introduced (1997-2006) for NCE discovery, resulting in patentable fluoroquinolone and oxazolidinone analogs as potential anti-methicillin resistant *Staphylococcus aureus* agents (3). The depicted table provides information on an impressive array of recent new drugs in the pipeline of major Indian pharmaceutical companies.

Consequent towards meeting the increase in demand for a newer breed of medicinal chemists, the government, teaching bodies and research centers of domestic and multinational pharmaceutical companies are all engaged in newer approaches, characterized however by fragmentation in respect of syllabi, research programmes, standards, objectives, practices and goals. Medicinal Chemistry as a stand-alone department has begun to be introduced in a few institutes and universities, while in others continuing to remain as part of programmes of departments of pharmaceutical chemistry. The current and future prospects of medicinal chemistry education in India can be envisaged as leading into:

- Well-structured graduate teaching and doctoral programmes under one roof, for instance in centers of excellence like the National Institute of Pharmaceutical Education and Research, the Indian Institutes of Technology, the Indian Institute of Science, the Central Drug Research Institute, the University Institute of Chemical Technology,

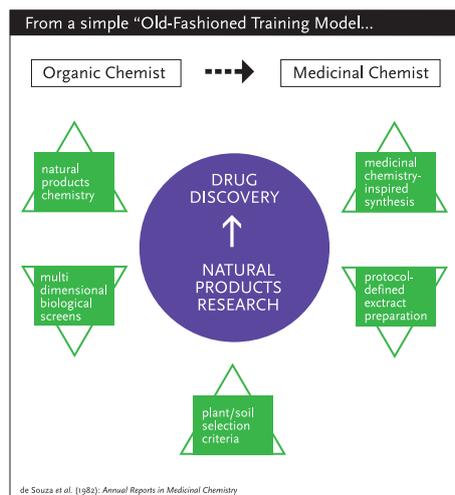


figure 1

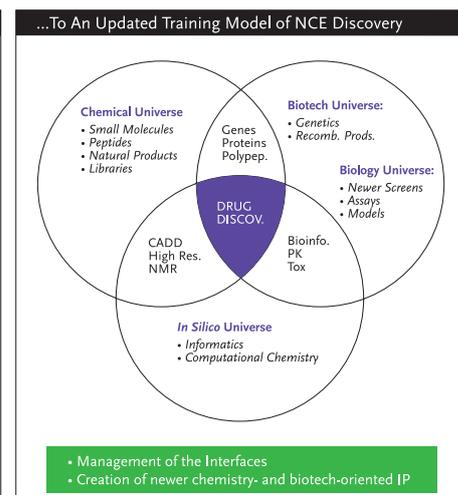


figure 2

Drug Pipeline of Indian Pharmaceutical Companies			
Company	Identifier/Molecule Description	Disease Area	Stage of Development
DRL	DRF 2593/ Balaglitazone	Diabetes	Phase III
DRL	DRF 10945	Dislipidemia	Phase II
DRL	DRF 1042	Cancer	Phase II
Ranbaxy	RBx 11160/Synthetic variant of artemisinin	Malaria	Phase II
Nicholas Piramal	CDK-4 inhibitor	Oncology	Phase II
Nicholas Piramal	TNF- α inhibitor	Inflammation	Phase II
Glenmark	GRC 3886/Oglemist	Asthma	Phase II
Glenmark	GRC 8200	Diabetes	Phase II
Wockhardt	WCK 771/Quinalone	Broad Spectrum Antibiotic	Phase II

Somesh Sharma, Nicholas Piramal LTD, CSO

de Souza | JFWTC IP.2007 | Bangalore

the National Chemical Laboratory, the Indian Institute of Chemical Technology, the Birla Institute of Technology and other leading Universities

- Syllabi orientation to assimilate curricula of concomitant emerging technologies in drug design, biotechnology, and newer disciplines such as chemical/systems biology, chemical genetics, chemo-bio-informatics, IPR, project management, different disciplinary methodologies and ancillary pharma-

cological disciplines

- Interdisciplinary teaching, and research symbiosis & coordination
- Development of internationally visible research groups and scientists, fostering a local post-doctorate culture, with some focus on indigenous research themes related to India's traditional system of medicine, neglected diseases, and exclusive ethnic gene pools
- Balanced treatment of federally-funded institutions versus state-funded

universities, with policies avoiding feudalism and elitism, whilst demanding accountability.

■ The opportunities for medicinal chemists, whether budding or established or foreign-returned, have never been so favorable as they now are. India is engaged in a vaulting bid to emerge as a global world-class “knowledge-powerhouse”. Significant funding initiatives have been made by the Indian government in billion-dollar budgetary allocations for science and technology research. A group of five new premier interdisciplinary research-devoted Indian Institutes of Science Education and Research should have a strong appeal to aspiring medicinal chemists. Collaborative links between government, corporates and academia are increasing.

There is no Indian Society of Medicinal Chemistry, as exists for different other long-established Indian Societies related to chemistry-associated disciplines such as societies of Bio-Organic Chemists,

Biological Chemists, Chemists and Biologists, and associations of Pharmaceutical Scientists, and Clinical Biochemists, to name a representative few. Some scientific journals publish reports of medicinal chemistry content in appropriately-classified sections. Themes related to emerging concepts and practices in medicinal chemistry are the focus of periodically held conventions, conferences and meetings hosted by societies, research institutions and companies of the pharmaceutical

industry.

It would be a positive benefit if through circulation of this newsletter to teachers, scientists and policy-makers in the field of Medicinal Chemistry in India, it could lead to convergence towards the formation of - or re-orientation of - existing societies to a society that would further promote the interests of medicinal chemistry and/or drug discovery in India. Comments would be welcomed at noel.desouza@vsnl.com.

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LAB PRESENTATION

The Research Unit in Biomedical Informatics (GRIB), Barcelona

BY GERHARD F. ECKER

The Research Unit on Biomedical Informatics (GRIB, www.imim.es/grib) is a joint research unit of IMIM-Hospital del Mar (www.imim.es) and Universitat Pompeu Fabra (UPF, www.upf.edu). It was created by Prof. Ferran Sanz in 1985. This unit carries out methodological research and technological developments on the application of advanced information technologies and computational methods in the health and life sciences, with a particular focus in pharmaceutical R&D. The GRIB brings together a team of more than sixty scientists, as well as technical and

management staff. GRIB has a wide experience in the participation and coordination of research projects funded by the European Commission. In the last years, the unit has participated in more than 20 European projects. The GRIB is also involved in a significant number of other research projects funded in competitive calls. On the other hand, it has a long tradition of collaboration with the industry in the framework of R&D projects. GRIB staff is involved in pre and postgraduate teaching at the UPF, with a particularly intense involvement in its master degree in Bioinformatics



in Health Sciences (diana.imim.es/Bioinformatics).

The GRIB is currently organised in seven laboratories:

■ **Computational Genomics** (*Mar Albà, Eduardo Eyra, Núria Lòpez-Bigas, Robert Castelo*) is devoted to the computational analysis of genomic sequences and information. Roderic Guigó, director of the Bioinformatics Programme of the Centre for Genomic Regulation (CRG) acts as stable consultant of this lab.

■ **Complex Systems** (*Ricard V. Solé*), a lab devoted to the understanding and

modelling of complex biosystems, their synthesis and evolution.

■ **Structural Bioinformatics** (*Baldomero Oliva*) dedicated to the analysis and modelling of protein 3D structures, as well as these of macromolecular interactions.

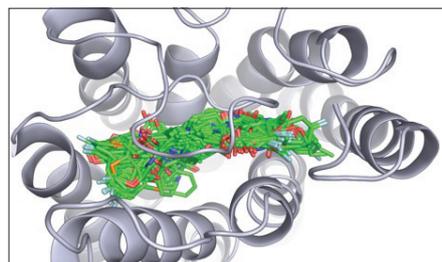
■ **Computational Biochemistry and Biophysics** (*Jordi Villà-Freixa, Gianni de Fabritiis*), which is devoted to the development and use of modelling and simulation methods to understand biochemical and biophysical phenomena at the molecular and systemic levels.

■ **Chemogenomics** (*Jordi Mestres*), which is dedicated to the development of novel integrative bio-chemoinformatics methods and its application to the annotation of large chemical libraries to entire protein families of therapeutic interest.

■ **Computer-Assisted Drug Design** (*Manuel Pastor*), a group focused on the development and application of computational methods oriented to the discovery and development of new drugs. Ismael Zamora, Director of Lead Molecular Design, is a part-time member of this group.

■ **Integrative Biomedical Informatics** (*Ferran Sanz*), a singular group particularly dedicated to the generation and execution of research initiatives that aim to contribute to the solution of biomedical problems on the basis of the joint application of methods and strategies afforded in different GRIB labs.

Some examples of methods and tools developed at the GRIB in the field of pharmacoinformatics are the SHED descriptors (1), as well as the GRIND ones developed in collaboration with Molecular Design Ltd. (2). Regarding recent applications of these methods in the Medicinal Chemistry field, GRIB scientists have recently published papers

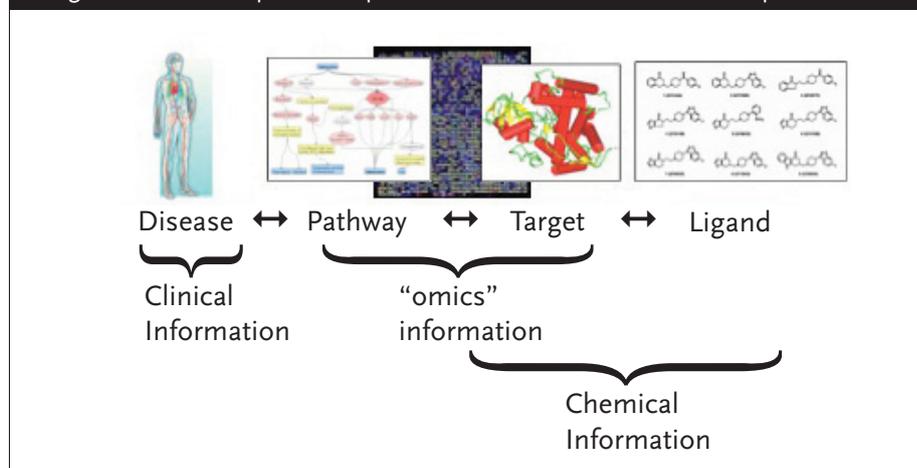


Docking of butyrophenes in the h5HT2AR model
(Taken from Ref.3)

on chemoinformatic studies of antipsychotics (3), as well as a chemogenomic profiling of nuclear receptors (4). On the other hand, the GRIB is currently participating in the CancerGrid and ALERT EU-funded projects within the pharmaceutical field, as well as in the EUROPIN initiative for establishing a European doctorate in Pharmacoinformatics.

The research activity of GRIB has originated the creation of two spin-off companies: Pharmatools Interactive Services, promoted by Ferran Sanz, and Chemotargets, promoted by Jordi Mestres. Finally, it has to be pointed out that GRIB is the node for Biomedical Informatics of the Spanish Institute of Bioinformatics (INB).

Integration of heterogeneous biomedical information in order to gain a more complete and powerful view on disease and therapeutics



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4th Summer School on Drug Design

Vienna, Sept. 16-21, 2007

BY GERHARD F. ECKER

EFMC-sponsored Schools currently comprise ESMEC-Urbino, LACDR-Leiden/Amsterdam, the Swiss Course on Medicinal Chemistry and recently also the Vienna School on Drug Design joined the club. The Vienna school is organised each second year and focuses on computational methods in drug discovery and design and - for the first time – was held in English and broadly announced throughout Europe. Participation normally is limited to 50 persons to enable proper organisation of the hands-on sessions, which take place in the afternoons. As the school always is heavily overbooked, the fourth edition for the first time offered also a “lectures only” option. Thus, together with the 20 speaker this time almost 100 participants were registered and spent one week in Vienna.

The School traditionally opens on Sunday evening with a general talk, which was given by Gerd Folkers, Collegium Helveticum: “How culture gets under your skin”. During the week,

the participants had the opportunity to listen to four talks from Hugo Kubiny, who this time focussed on chemical similarity, chemogenomics, prodrugs and metabolism. Despite overviews on software packages (T. Langer),



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QSAR methods (G. Ecker) and in depth presentations of new software tools by the Chemical Computing Group, Tripos, Inte:ligand, and

BiosolveIT, the 4th edition also covered structure based design (W. Sippl, C. Sotriffer), QM/MM methods (H.-D. Hoeltje), pharmacophore modelling (G. Wolber), virtual combinatorial chemistry (T. Langer), conformational sampling (P. Wolschann), and artificial neural networks (G. Ecker). A strong emphasis was also given to case studies from Academia and Industry, with talks from W. Sippl, C. Buenemann and T. Ullrich (Novartis), P. Ettmayer and E. Haaksmas (Boehringer-Ingelheim), and K.-J. Schleifer (BASF).

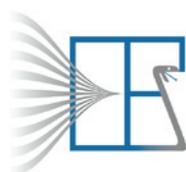
The afternoons were devoted to hands-on sessions, which were organised by BiosolveIT, Chemical Computing Group, Inte:ligand and Tripos. Participants were spread over two computer rooms each equipped with 20 PCs and thus were able to work with software packages from all four companies. Company representatives were present throughout the meeting to demonstrate latest developments of their software packages. ■

Important dates for EFMC sponsored Schools organised in 2008

For further information on EFMC sponsored schools, please visit www.efmc.info



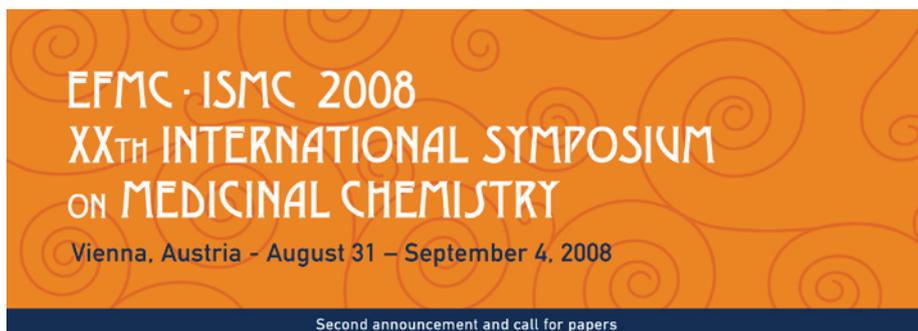
ESMEC Urbino
July 6-11, 2008



LACDR Leiden/Amsterdam
October 28-31, 2008



SWISS COURSE Leysin
October 12-17, 2008



The XXth EFMC-ISM 2008
Call for Abstracts is open!

Please visit www.ismc2008.org
and register online.

The 2008 EFMC-ISM is organised by the Austrian Chemical Society on behalf of the European Federation for Medicinal Chemistry (EFMC).

This year's host for the XXth International Symposium on Medicinal Chemistry will be Vienna where from August 31 to September 4, 2008, scientists from all over the world will meet in the Austria Center to discuss the latest advances in drug discovery technologies as well in the areas of Neurodegenerative Diseases, Anti-Psychotics, Pain, Diabetes, COPD & Asthma, Immunology & Immunomodulation, Anti-virals, and Oncology. The emphasis will be on first time disclosures.

After the numerous breakthrough discoveries in structural research in 2007 we are very pleased that Professor Chris DOBSON (University of Cambridge) accepted our invitation to deliver the inaugural lecture on Sunday evening. We are also grateful to Prof. Paul HERRLING (Novartis International), Prof. Barbara IMPERIALI (Massachusetts Institute of Technology) Prof. Steven V. LEY (University of Cambridge) and Dr. Magid ABOU-GHARBIA (Wyeth Research) for their availability as plenary lecturers. Further plenary speeches will be presented by this year's winners of the prestigious EFMC Awards: The Nauta Award for Pharmacology, The UCB-Ehrlich Award for Excellence in Medicinal Chemistry and The Prous Institute-Overton and Meyer Award for New Technologies in Drug Discovery. In addition we are proud that again the GlaxoSmithKline Award for Outstanding Achievement in the Field of Chemical Biology will be presented at the occasion of the XXth ISMC in Vienna. Please visit the website for the detailed program, the schedule and the confirmed lecturers.

The Congress venue, Austria Center Vienna, is located in the central area of Vienna and offers state-of-the-art facilities for speakers, exhibitors and attendees.

Looking forward to your active participation!

PETER ETTMAYER, *Symposium Chairman*

ROBERTO PELLICCIARI, *President EFMC*

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Vienna, located in the very heart of Europe offers itself as the most sophisticated and distinguished venue for conventions. The climate of tolerance and understanding creates ideal conditions for international meetings. The City's active commitment to research, its prospering economy together with its rich cultural life, stimulating arts and music scene and its refined lifestyle will provide an enjoyable and valuable complement to a successful meeting.



CONFERENCE REPORT

International Symposium on Advances in Synthetic and Medicinal Chemistry

St. Petersburg, Russia, August 27-31, 2007

BY ERDEN BANOGLU

The International Symposium on Advances in Synthetic and Medicinal Chemistry (ASMC07) was held in the magnificent Russian city of St. Petersburg in which the enchanting Russian heritage combined with a distinctly European outlook fascinated the participants during August 27-31, 2007. The ASMC07 in St. Petersburg was jointly organized by EFMC and ChemBridge Corporation with the support of the American Chemical Society (ACS) and the ACS Division of Medicinal Chemistry.

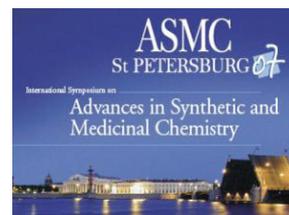
The first symposium of this meeting series, the International Symposium on Advances in Synthetic, Combinatorial and Medicinal Chemistry (ASCMCo4) chaired by Prof. K.C. Nicolaou, in Moscow was acknowledged as the world's chemistry meeting in the year 2004. This second meeting of this symposium series, ASMC-St. Petersburg 07 was chaired by Prof. Steven Ley and Dr. Magid Abou-Gharbia and promised to follow the tradition to be the world's chemistry science high points of the year 2007 with the aim of bringing together leading scientists and expert practitioners

of synthetic and medicinal chemistry from academic, government and industrial institutions to discuss emerging trends in synthetic chemistry and medicinal chemistry, novel approaches in drug design, and recent advances in drug discovery and development.

The ASMC-St. Petersburg 07 with its distinguished panel of 45 internationally renowned speakers from academia and the pharmaceutical industry, 215 peer reviewed poster presentations and about 600 delegates from 42 countries completed this task successfully, and resulted as a great success in advancing science of medicinal and organic chemistry while promoting cooperation between scientists from all over the world.

The general topics covered during this symposium included:

- New Synthetic Methodologies, Total Synthesis of Natural Products and Heterocyclic Chemistry
- Diversity- and Target-Oriented Synthesis and Chemical Biology
- Medicinal Chemistry and Drug Discovery & Development



On the opening day chaired by Prof. Pellicciari, two important plenary lectures given by Prof. Ley (University of Cambridge, Cambridge) and Dr. Abou-Gharbia (WYETH Research, Princeton) highlighted the core structure of the meeting by pointing out the changing face of organic synthesis for making biologically important molecules more efficiently and by making important remarks to discover small molecule therapeutics from natural products resources. These talks were followed by very interesting lectures given by leading scientists of USA, Russia and Europe with an excellent attendance bringing together the synthetic organic and medicinal chemistry. At the end four days of very exciting science and great discussions in enriching cultural environment of St. Petersburg made the ASMC-07 as an alive, rewarding and memorable scientific symposium which set the stage at a high level challenging the organizers of the next symposium in the series.

EFMC and ChemBridge agreed to continue this unique and promising series and the next meeting will be held in 2009, most probably in Kiev. ■



Professor Steven Ley at The Opening Ceremony



From left to right: Gene Vaisberg, Magid Abou-Gharbia, Roberto Pellicciari and Ly Differding.



Edmond Differding and Gene Vaisberg at the Symposium Banquet

Innovative Medicines Initiative goes operative



The Innovative Medicines Initiative

The **Innovative Medicines Initiative**, IMI, finally has been approved by the European Parliament and becomes operative. The IMI, a unique partnership between the European Community and the European Federation of Pharmaceutical Industries and Associations (EFPIA) has been established as a Joint Technology Initiative, a major new element of the EU's 7th Research Framework Programme (2007-2013). Through the IMI Joint Undertaking, the IMI will manage €2 billion in research funds, with €1 billion coming from the FP7 funds and €1 billion in-kind from the member companies of EFPIA. In the first week of March the Governing Board, the decision-making body of IMI, has been constituted. The Governing Board of the IMI is composed of 10 members, representing equally its two Founding Members: the European Community, represented by the Commission and the EFPIA, the European Federation of Pharmaceutical Industry and Associations. The Governing Board shall have the overall responsibility for the operations of the Joint Undertaking. Decisions in the first meeting concentrated on two key priorities for IMI in 2008: launching the first call for project proposals and progressing towards making the IMI JU autonomous. The Governing Board therefore approved the draft scientific priorities for the first IMI call, full details of which will shortly be published on the IMI website www.imi-europe.org. A lot of useful documents, such as the statutes of IMI, the IPR policy and the workflow for calls and their review can be found under http://imi.europa.eu/documents_en.html

According to information gathered from several national kick-off meetings and presentations given at the member states group meeting, the topics of the first call will most likely be:

Efficacy – Diabetes

Islet cell research
Surrogate markers for micro- or macrovascular hard endpoints
Genomic and genetic studies for stratification of responders and non-responders

Efficacy – Brain

Pain Research
Psychiatric disorders
Neurodegenerative disorders

Efficacy – COPD & Asthma

Establishment of a European network on Asthma & COPD
Translational medicine network for Asthma & COPD
Health outcome network for Asthma & COPD

Safety – Preclinical

PredTox II
Qualification of translational biomarkers from non clinical to early clinical studies
Immunogenicity
Non-genotoxic carcinogens
Development of expert system for in silico toxicity prediction

Safety – Pharmacovigilance

Pharmacovigilance

Education and Training

European Medicines Research Network

Safety Sciences Training Programme
Pharmaceutical Medicine Programme
Integrated Medicines Development Training Programme
Pharmacovigilance Training Programme

On Wednesday, April 30, an information day will be organised in Brussels to inform all key stakeholders on the details of the first call. The event will provide potential stakeholders with initial guidance on the application procedures.

In parallel the European Commission launched a call for nominations for the Scientific Advisory Board of IMI. This is composed of 15 scientists who should have a broad expertise on the whole drug discovery and development process. Each country is asked to nominate 10 scientists, 5 of which must be from other outside the country.

Nominations are due at March 31st. ■
—BY GERHARD F. ECKER

ACS-MEDI Division, EFMC and the Sociedad Española de Química Terapéutica agreed to organise the second meeting of the “**Frontiers Medicinal Chemistry**” series in autumn 2009 in Barcelona, Spain.

The **EFMC job-portal** has been launched at www.efmc.info and provides the possibility to place job-offers. This service is offered free of charge to our Corporate Members. For further information please contact Dave Alker (davidalker@btinternet.com).

EFMC soon will launch the **call for organising the XXIIth International Symposium on Medicinal Chemistry (EFMC-ISMC)** in 2012. Applications are restricted to Member Societies of EFMC. The decision will be made at the Council Meeting in Vienna, August 31st. ■

Call for 10 free participations

European School Of Medicinal Chemistry (ESMEC), Urbino

The scientific committee of the European School of Medicinal Chemistry (ESMEC-Urbino), an official School of the EFMC, offers 10 fellowships for the participation to the XXVIII edition of the School, which will be held in Urbino (Italy), July 6-11, 2008.

The fellowships, covering the registration fee, the full board accommodation, and also including a contribution for the travel expenses, will be assigned to PhD students belonging to one of the candidate scientific CV.

Selected applicants are requested to present a poster.

Interested candidates are invited to send a complete CV to:

Mrs. **Laura Carioli**

Univeristà degli Studi di Camerino

Piazza Cavour 19/f

62032 Camerino (MC) – Italy

laura.carioli@unicam.it

Applicants are invited to submit the CV, prederably by e.mail, stating “ESMEC Application” in the Subject within **April 10, 2008**.



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XXVIII Edition of the European School of Medicinal Chemistry (ESMEC)

July 6-11, 2008 Urbino, Italy

For the final program and for further informations please visit:

<http://www.esmec.eu>
.....

The GlaxoSmithKline Award for Outstanding Achievement in the field of Chemical Biology

The close interaction of Chemistry and Biology is critically important in the advancement of our understanding of fundamental biological processes at a molecular level. Furthermore, continuous expansion of this knowledge base is imperative in the discovery of new pharmaceutical agents to treat or prevent disease and illnesses which adversely affect patients' quality and longevity of life, world wide.

To recognise and support outstanding academic research in the field of Chemical Biology, GlaxoSmithKline has created an award valued at 20,000 Euros to support the winner's future research. This is to be awarded to an academic chemist who has made significant advances in the field of Chemical Biology, through improving our understanding of key biological mechanisms which may contribute to the discovery of new medicines.

The GlaxoSmithKline Award is intended for European academics establishing a significant reputation in the field of Chemical Biology. Areas of research in this field which are eligible for consideration for the award include for example:

- Elucidation of chemical mechanisms in biological systems
- Expansion of biological knowledge through chemistry
- Expansion of chemical knowledge through biology
- Enhancement of understanding of protein function and ligand-protein interactions
- Advancement in the understanding of genome sequences

- Identification or elucidation of novel pathological mechanisms in disease
- Improvement in the understanding of drug action

Applications should be submitted to GlaxoSmithKline by **30th April 2008 consisting of the following**; a resume of no more than 1,000 words describing the background to the research, a description of the ongoing activities and future aims of the project, 5 relevant references or publications to support the application.

Assessment of the application and the identification of the winner will be judged by a joint panel of eminent academics in the field of Chemical Biology and GSK scientists. The decision of the judges will be final and no correspondence will be entered into.

The award will be presented at the XXth International Symposium on Medicinal Chemistry (ISMC) in Vienna, Austria (31st August to 4th September 2008). The winner will be invited to present a plenary lecture at this meeting.

Submissions should be sent to: Dr David Witty,
GlaxoSmithKline, New Frontiers Science Park (North),
Third Avenue, Harlow, Essex CM19 5AW.

E-mail: EZZ84731@gsk.com

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Winners for 2008 EFMC Awards announced

The Selection Committees of the three 2008 EFMC Awards chaired by the EFMC President, Roberto Pellicciari, have just announced the names of the winners. They are:

Nauta Award for Pharmacochimistry:

Hugo Kubinyi, University of Heidelberg

UCB-Ehrlich Award for Excellence in Medicinal Chemistry:

Peter H. Seeberger, ETH Zuerich

Prous Institute – Overton and Meyer Award for New Technologies in Drug Discovery:

Steven Ley, University of Cambridge

The Awards will be presented to the winners on August 31, 2008 during the opening ceremony of the XXth EFMC-ISMIC Symposium that will be held in Vienna, Austria, from Aug. 31 to Sept. 4, 2008. Awards Plenary Lecture for the winners have also been scheduled. For details, see www.ismc2008.org

CALENDAR OF EVENTS

CNC Conference on New Methods in Drug Research

May 11-16, 2008

Limasol, Cyprus

Web: <http://www.cypcondrugres.org>

28th European School of Medicinal Chemistry (ESMEC)

July 6-11, 2008

Campus Sogesta, Urbino, Italy

Web: <http://www.esmec.eu>

Metabolic Disorders – from Bench to Bedside

August 28-31, 2008

Sopron, Hungary

Web: <http://www.metdis2008.mke.org.hu>

International Symposium on Medicinal Chemistry

August 31 – September 4, 2008

Vienna, Austria

Web: <http://www.ismc2008.org>

XIXth National Meeting on Medicinal Chemistry

September 14 – 18, 2008

GlaxoSmithKline Auditorium,

Verona, Italy

Web: <http://www.nmmcverona2008.unimore.it>

Summer Course on Pharmaceuticals Analysis

September 21 – 23, 2008

Rimini, Italy

Web: <http://www.scpaweb.org>

8th Swiss Course on Medicinal Chemistry

October 12-17, 2008

Leysin, Switzerland

E-mail: beat.ernst@unibas.ch

17th LACDR School on Medicinal Chemistry

October 28-31, 2008

Noordwijkerhout, the Netherlands

E-mail: e.devries@leidenuniv.nl

4th Anglo-Swedish Medicinal Chemistry Symposium

March, 2009

Åre, Sweden

Web: <http://www.lakemedelsakademin.se>

XXIst International Symposium on Medicinal Chemistry

August, 2010

Brussels, Belgium

E-mail: edmond.differding@ucb-group.com

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European Federation for Medicinal Chemistry

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