

Minutes
Medicinal Chemistry Section
Chemistry and Human Health Division
Bologna, Italy
September 17, 2000 9 am to 7 pm

Meeting Attendees: C.R. Ganellin, T.J. Perun, A. Kallner, N. Koga, P. Lindberg, J. Seydel, E. Kyburz, H. Wikstrom, A. Monge, J. Topliss, T. Kobayashi, G. Gaviraghi, J. Fischer, E. Breuer, M. Chorghade, D. Maclean

Apologies for Absence: C. Wermuth, B.K. Trivedi, P. Erhardt, P. Andrews, L. Mitscher, O. Kebir, C.M. de Sant' Anna

1. Opening Remarks and Minutes of the San Francisco Meeting

Robin welcomed everyone to the meeting and noted that Camille Wermuth had to resign as President of the Division. It was hoped that Camille's health would permit him to continue to attend the Medicinal Chemistry Section Meetings. Anders Kallner has been appointed President to fill the remainder of the term, and was in attendance. The minutes of the previous meeting were approved.

2. Chemistry and Human Health Division Report

Anders reported on his discussions with the Bureau since assuming the Presidency of the Division. With the movement in IUPAC from Commissions to a Project organization, and the elimination of the Sections in 2002, it is important for the Division to identify new activities and members who can help to integrate the Sections. The Bureau has asked each of the Divisions to establish a Nomination Committee to identify new candidates for the Division Committee. The Nomination Committee should consist of five members, at least two of which should be from outside the Division. It was felt that potential Committee members should be familiar with current medicinal chemistry activities. Names that were suggested were Phil Portoghese, Peter Andrews and Povl Krogsgaard-Larsen. Contact will be made to determine if any of them are willing to participate.

3. Section Membership

Questions were raised about Section membership in the new IUPAC structure. Anders reviewed the current membership status which includes both titular members and associate members. Titular members are able to receive travel funds for their participation in IUPAC meetings, whereas associate members are not funded. Under the new system, projects will receive a budgeted amount, which will be used to pay for travel and subsistence of members attending meetings. As before, members are encouraged to obtain travel funds from other sources where possible. National representatives from member countries will continue to be involved, as will associate members from other organizations such as EFMC.

A question was asked about the organization and operating mode of the Clinical Chemistry Section. Anders answered that current Commissions have very little industrial representation, whereas IUPAC wants to have a balanced membership. The goal in the Clinical Chemistry Section is to increase industrial involvement. A difference between the Sections is that the Commissions in Clinical Chemistry have separate meetings, whereas Medicinal Chemistry meets as a unit to review activities. Robin stated that the Medicinal Chemistry Section should continue to meet as a group, twice a year until the Section is dissolved.

During a discussion of potential new members, Robin stated that we need to identify a person who is a specialist in nutritional chemistry. Tom brought up the request from Camille to add an expert in bioinformatics, to broaden the Divisional activities in the future. He mentioned that he had contacted Michael Liebman who had expressed an interest in participating. It was suggested that a proposal for a bioinformatics project be solicited and circulated to members before the Spring meeting.

4. Commissions/Working Parties

4.1 Commission on Nomenclature and Terminology (P. Lindberg)

4.1.2 Working Party on Glossary of Combinatorial Chemistry Terms (D. Maclean)

Derek discussed the completion of the Glossary of Terms Used in Combinatorial Chemistry, and handed out a copy of the article which appeared in Pure and Applied Chemistry, Vol. 71, No. 12,.

pp. 2349-2365, 1999. Derek mentioned that the glossary is published as an IUPAC Technical Report i.e. under 'Recommendations' and asked how to achieve 'IUPAC approval Status.' It will also be published in the Journal of Combinatorial Chemistry (Nov-Dec) 2000. This will ensure its use within the ACS as a standard glossary of terms, and require revisions in future years. Anders mentioned a Vancouver group of journal editors who should receive a copy. It will also be included in the Compendium of Glossaries. The Working Party will continue to work on other activities such as a definition of generic structures for use by patent lawyers. Another paper on generic structures has appeared with A. Katritzky as lead author, and he will be involved in the Working Party.

Per brought up the proposal made at the last Section meeting, to form a task force whose goal would be to create an opinion paper on the use of virtual libraries for patent purposes. The leadership of this group could be either Per or B.K. They will confer with each other to decide.

4.1.3 Working Party on Glossary of Drug Metabolism Terms (P. Erhardt)

Since Paul was unable to attend the meeting, his report was read by Robin. The recommendation made at the last Section meeting to reduce the number of terms was conveyed to the members of the WP. The number of terms has been reduced from ~450 to 150-200. A draft of the document will be presented at the next Section meeting.

4.1.4 Compendium of Glossaries (R. Ganellin)

Robin spoke about the problem he has had with merging the various documents produced over the years by different groups using different formats. Anders has helped Robin merge two of the Microsoft Word documents. It was suggested that glossaries should be put into an XML format (hypertext) for the future ease of use. Editorial help will be needed to complete the task and Mukund Chorghade and *Eli Breuer* volunteered. E. Breuer suggested publishing as CD-ROM document.

4.1.5 Working Party on Glossary of Terms in Pharmaceutical Technology (E. Breuer)

The first draft of this glossary has been completed (~100 terms) and is being reviewed by J. Fischer. It will be sent by e-mail to other members of the committee and Eli requested to receive the appropriate e-mail addresses. It was brought up that since this is a new project, a proposal form will need to be submitted to IUPAC.

4.1.6 Working Party on Glossary of Terms in Pharmaceutical Process Chemistry and manufacturing of active pharmaceutical ingredients. (M. Chorghade/G. Gaviraghi)

The preliminary draft is being reviewed by G. Gaviraghi, E. Breuer and J. Fischer. New members of the WP are Carlos Rosas, John Surtees, Anand Apte and Mukund Gurjar. The Organic Process Chemistry Journal has agreed to publish the final version. Again, since this is a new project, a Proposal form will be sent to IUPAC. The glossary may be submitted to WHO for circulation.

It was suggested that all of the glossaries be submitted to WHO as part of their International Committee on Harmonization. T. Kobayashi said that he is writing a proposal to IUPAC for harmonization of regulatory issues, and will coordinate this with WHO.

4.2 Commission on Training and Development (A. Monge)

Antonio discussed a request he received from IUPAC to produce a document on Study of the Future of the Vocation of Chemistry in Developing Countries. The document will propose an increase in investment in developing countries, an increase in scientific meetings attended by scientists from developed countries, and the need to set up more research activities in the developing countries.

The recent course on medicinal chemistry given in Montevideo, Uruguay led to a proposal for forming an association of medicinal chemists in South America. The next course will be given in Rio de Janeiro, Brazil (18-21 October) in 2001.

4.2.2 Research and Training in Medicinal Chemistry in the Indian Subcontinent (M. Chorghade)

Mukund has been in contact with various universities in India. There is no formal degree in medicinal Chemistry currently given in India. Since the patent laws regulating medicinal compounds have now been changed, there is an expressed need to develop a medicinal chemistry curriculum. A standard curriculum has been provided by Robin, and Mukund will distribute it in India. This is also being provided to Pakistan via Professor Rattu Raman (recently appointed as the Federal Minister for Science) and possibly Sri Lanka. H. Wikstrom and J. Seydel mentioned that they have contacts in China. It was also suggested that we should invite the Russian National Prof. E.A. Lukyanets representative to our meeting to promote medicinal chemistry teaching.

4.2.3 Medicinal Chemistry in the Development of Societies. Biodiversity and Natural Products (A. Monge)

This article is now ready for publication in both English and Spanish. A suitable journal needs to be identified for worldwide dissemination. It was suggested that the publication be coordinated with the Division III Task Group on Molecular Basis of Biodiversity, Conservation, and Sustained Innovative Utilization which is headed up by A. Fischli and U. Pandit.

4.2.4 Research and Development in Medicinal Chemistry in Developing Countries II. Patents and Contracts (the Researcher's View)

The first draft of this article was submitted for review.

4.3 Commission on New Technologies and Special Topics (B.K. Trivedi)

4.3.1 Working Party on Pharmaceutically Acceptable Salts of Drug Substances (C. Wermuth)

The book, IUPAC Handbook for Pharmaceutically Acceptable Salts, is now completed and will be published by John Wiley in the spring of 2001.

4.3.2 Natural and Unnatural Substances Related to Human Health (J. Topliss)

The six sections of the manuscript have been integrated and sent back to the authors for review.

When these have been completed and all changes made, it will be sent to Section members for their review. A condensed summary will be developed for the lay press.

5. New and Future Projects

Human Metabolism Database (with IUPHAR) (P. Erhardt)

This project has received a commitment for funding from ICSU in the amount of \$50,000, however only \$10,000 has been received so far. A project proposal has been sent to IUPAC using the official project request form. The two reviews received have been quite favorable, and answers have been sent regarding some questions raised.

Chemical, Pharmacological and Toxicological Aspects of Nutraceuticals (M. Chorghade)

This working party has added 3 new members including two from the U.S. and one from India. More members are being sought. Since the field is so broad, there is some difficulty in determining what should be included. It ranges from vitamins through natural products to herbal mixtures. The field is vast, Mukund has six CD's, each of 50 plants describing natural product medicines (Ayurvedic) much of which is translated from Sanskrit. There is a need to differentiate between natural product medicines and nutraceuticals. J. Topliss suggested defining the field as: nutritionally useful compounds. Will now aim for an article on selected examples of natural product medicines and nutraceuticals with the title "Natural products with medicinal and nutritional value."

Isotopically Labeled Compounds as Probes for Human Clinical Effectiveness (G. Gaviraghi)

This project is trying to decide what is needed, a glossary or a position paper. Enough interested members willing to participate have not yet been found.

Other Possible Projects

Drug likeness; criteria and assessment. This subject was raised and should be considered by BK Trivedi as part of his remit for special topics.

J. Fischer brought up the topic of 'Timing of analogue research.' As an example of its importance he mentioned the German Ministry Market Analysis reported in SCRIP, number 2512 (9 Feb 2000): of 35 new substances marketed in 1998, only 12 were novel, 9 were an improvement of existing therapeutic forms, and 14 were "Me-too" i.e. analogues.

Crystallinity and polymorphism, which had previously been discussed as a possible project will not now be pursued since the journal Organic Process R & D will devote the November/December issue to the subject of polymorphism.

J. Seydel asked if there is a need for a glossary on pharmacokinetics for medicinal chemists. It was felt that this was probably best covered in other documents, but a monograph might be more useful.

The need for a project on bioinformatics was again brought up. Michael Liebman will be contacted by T. Perun to elicit a project proposal.

M. Chorghade suggested a need for a document on predicting drug *shelf life* stability. He volunteered to write a report describing the methods available to predict chemical stability from a structural basis.

H. Wikstrom suggested a document on intellectual property and patenting issues for university research.

6. Internet Home Page

The existing web page has gotten badly out of date. T. Perun contacted the webmaster, Pat Woster at Wayne State U. to see if it could be updated and maintained. Because of Pat's increased duties with the ACS Medicinal Chemistry Division, it was doubtful that he could continue to do both. It was suggested that possibly post-docs could do this under his direction. This will be explored. Another suggestion was to contact the IUPAC Secretariat for possible help.

7. AIMECS IUPAC Symposium 2001 (P. Andrews)

The AIMECS meeting will be held in Brisbane in conjunction with the IUPAC Congress "Frontiers in Chemistry". The Congress will start on July 2 for three days and the AIMECS will start on July 4 for three days.

8. European Federation for Medicinal Chemistry (EFMC) (E. Kyburz)

The ISMC meeting held in Bologna was very successful in attracting participants and attendees. The total registration was over 1000. The next meeting will be held in Barcelona in 2002.

9. Asian Federation for Medicinal Chemistry (AFMC) (T. Kobayashi)

The next General Assembly meeting will be held in Tokyo on September 28, 2000. Among the agenda items will be the selection of the site for the 2003 meeting in Japan. Meetings held in 2000 were the Japan-Korea Symposium on April 11-12, and the Australia-Japan Symposium on May 15-17.

10. Symposia Sponsorship

Hungarian-German-Italian-Polish meeting on medicinal chemistry in Budapest on Sept 2-6, 2001 was given a favourable response provided that the organisers signed the agreement regarding the issuance of entry visas.

11. Links with other Bodies.

IDCNS- Robin has informed them of the intent to publish a compendium of glossaries and to initiate glossaries for 4.1.5 and 4.1.6 (above)

IUPHAR- Robin's term with this organization has expired.

12. Other Business

Mukund brought up the issue of the problems for IUPAC in approaching industry. Robin agreed to draft a letter identifying the medicinal chemistry section activities which had contributed to industry in recent years.

13. Next Meeting

The next meeting of the Medicinal Chemistry Section is scheduled for Sat. March 31, 2001 in San Diego before the ACS Meeting.