# THE EUROPEAN PEPTIDE SOCIETY NEWSLETTER



Issue Number 27, 1 July 2002

## HOUBEN-WEYL COMMEMORATES A HUNDRED YEARS OF PEPTIDE CHEMISTRY



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From the University of Heidelberg website

**Emil Fischer** 

**Theodor Curtius** 

M Goodman, A Felix, L Moroder and C Toniolo (Eds.). Synthesis of Peptides and Peptidomimetics, volume E22a. Georg Thieme Verlag, Stuttgart, xxvii + 901pp, 2002. The first of four Additional and Supplementary Volumes [E22a-d] to the 4th edition of Methoden der organischen Chemie (Houben-Weyl), in English. ISBN 3-13-219604-5.

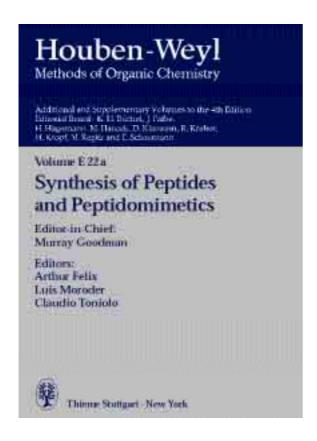
The new Houben-Weyl project to survey the *Synthesis of Peptides and Peptidomimetics* was launched at the first International Peptide Symposium in Japan in 1997. It was billed to commemorate a hundred years of peptide chemistry since Emil Fischer's 1901 publication<sup>1</sup> of the preparation of glycylglycine by partial hydrolysis of diketopiperazine. In fact, Fischer's arch-rival<sup>2</sup> Theodor Curtius had characterised



Contact: Professor Roger Epton, c/o Symposium Secretariat, P.O. Box 13, Kingswinford, West Midlands, DY6 0HR, England, UK. FAX: +44 (0) 1384 294463; TEL: +44 (0) 1384 279324 E-mail: r.epton@mayflower.demon.co.uk

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The contents of E22a are as follows:-

#### **Preface**

- 1 Scope of the Volumes
- 1.1 Historical Aspects
- 1.2 State of the Art and Strategies
- 2 Protection of Functional Groups
- 2.1 Amino Group
- 2.2 Carboxy Group
- 2.3 Amido Group
- 2.4 Photo-Cleavable Protecting Groups
- 2.5 Enzymatic Cleavable Protecting Groups
- 2.6 Other Side Chain Protections
- 3 Peptide Bond Formation
- 3.1 Azides

- 3.2 Active Esters
- 3.3 Acyl Halides
- 3.4 Anhydrides
- 3.5 Carbodiimides
- 3.6 1,1'-Carbonyldiimidazole
- 3.7 Phosphonium Salts
- 3.8 Uronium Salts
- 3.9 Miscellaneous Reactions
- 4 Synthesis of Peptides
- 4.1 Synthesis of Peptides in Solution
- 4.2 Enzymatic Synthesis
- 4.3 Synthesis of Peptides on Solid Support
- 4.4 Ugi's Four Component (4C) Synthesis

That is perhaps a predictable syllabus for the first volume, but within these headings there are many rather original first-time reviews of important specialist topics. Each section comprises a critical review, followed by carefully selected protocols with sufficient detail for repetition, and a corresponding bibliography. The three outstanding volumes will complete coverage of peptide synthesis and extend to protein synthesis, peptidomimetics, design principles, conjugated peptides, reactive peptides and natural products involving peptides and so on: the whole gamut of peptide – and protein – driven synthetic organic chemistry, in fact.

The volumes are priced separately, and so can presumably be bought separately, but the conception is clearly a unified one, and for example only the last volume has indexes. E22a has an extremely detailed Table of Contents extending to 19 pages, but it is not easy to find material on specific reagents without an index. EEDQ, for example, still has a following, but your reviewer could not find it mentioned anywhere in chapter 3, although some useful references were eventually discovered under a misleading heading in section 4.3. With the promised substance index in E22d, and the electronic version which is expected after hard copy publication is complete, such difficulties will be solved, but picking and choosing among the volumes would appear to be ill-advised. Despite the cost – 7400 Euros for the full set at the regular price, but only 6660 Euros to subscribers – everyone engaged in the area will want easy access, and for research groups of any size it will be cost effective investment, not a luxury.

Contributed by the Editor

- 1. E Fischer and E Fourneau, Berichte, 1901, 34, 2868.
- 2. On the tensions between Emil Fischer and Theodor Curtius, see T Wieland and M Bodanszky, *The World of Peptides. A Brief History of Peptide Chemistry*, Springer-Verlag, 1991, p. 32.
- 3. T Curtius, J. prakt. chem., 1881, 24, 239 and 1882, 26, 145.
- 4. T Curtius, Berichte, 1902, 35, 3226.
- 5. JS Fruton, in Peptides 1986, ed. D Theodoropoulos, 1987, p. 29.
- 6. In the bibliographic small print, however, the date of publication is stated as 19.12.2001.
- 7. Ernest Fourneau (1872-1949) was a Frenchman who had a distinguished career as a medicinal chemist in France: *Bull. Soc. chim France*, 1950, 953.
- 8. For a brief essay on the occasion of the fiftieth anniversary of the Z group, see JS Fruton, *Trends Biochem. Sci.*, 1982, 7, 37.

#### 4th AUSTRALIAN PEPTIDE CONFERENCE



Club Med on Lindeman Island, Queensland, was the highly attractive venue of the 4th International Australian Peptide Conference that was held from 7-12th October, 2001. The island is ideally located in the Whitsunday Passage off the mainland and only a few miles from the outer Great Barrier Reef. The conference was attended by close to 200 delegates despite the tragic events of September 11th in New York plus the recent collapse of one of the two Australian national airlines, Ansett (coincidentally the official carrier for the conference). Over 20% of the delegates were from overseas, with participation from the United States, Canada, Europe, Japan, China and of course New Zealand. Indeed, in the words of the conference chairman, Milton Hearn, "the collegiality of our science (must) continue to burn brightly as a beacon of reason in times of turmoil." A strong local committee worked hard to provide an outstanding and stimulating scientific program.

The following is a short selection of the many excellent keynote addresses that were presented during each session. Phil Dawson (USA) and Saburo Aimoto (Japan) each gave lucid accounts of the application of novel chemistries for constructing large synthetic proteins by chemoselective ligation methods. Arno Spatola (USA) and Jean-Alain Fehrentz (France) reviewed their recent work in the design of peptide mimetics having predetermined conformations. Henry Lowman (USA) and Richard Lewis (Australia) spoke on their efforts to design novel, biologically active peptides. A stimulating overview of the application of combinatorial chemistry to proteomics via chemical microarrays was given by Kit Lam (USA) whilst Brian Chait gave a stimulating presentation on the use of proteomics for dissecting cellular function using the nuclear pore complex as proof of principal. Signal transduction was a key theme and Andrew Wilkes (Australia) reviewed protein tyrosine kinases as drug targets, Ed Nice (Australia) showed how micropreparative HPLC purification coupled with biosensor analysis formed the platform for structurefunction studies on the EGF receptor. Wally Thomas and Karen Eidne (Australia) discussed G-protein coupled receptor signalling while Hélène Gras-Masse (France) described efforts to produce new, stable glycomimetic ligands for the mannose receptor. An outstanding presentation was made by Roger Tsien (USA) on the development of novel peptide fluorophores for use in studying peptide and protein interactions. Laszlo Otvos (USA) described a new class of peptide antibiotics while illustrating their action using German beer steins. David Craik (Australia) presented NMR structural work on novel cyclic knot peptides derived from plants. The presentations were complemented by many fine local presentations that showed that peptide research in Australia continues to be of a gratifyingly high standard. A number of posters were also presented during three excellent sessions which were held outdoors in the warm evenings and were accompanied by cheese and wine.



The Symposium Delegates, relaxed



The Symposium Delegates, even more relaxed



Raneiro Rocchi and Ian Smith near the Great Barrier Reef

Throughout the week, the warm hospitality of the hosts, superb program and weather and splendid food made for a truly memorable meeting. A highlight was the catamaran excursion to the Great Barrier Reef where, after an excellent lunch on board, delegates donned snorkels and swam amongst stunningly coloured coral and fish.

The week concluded with the conference dinner during which the fine local cuisine was appreciated amidst considerable good cheer and plenty of fine Australian wine. During the closing remarks made by Jean Rivier (San Diego, USA), it was announced that a decision has been made to host the 5th Australian Peptide Conference in early October, 2003. The venue has yet to be decided but it will be coordinated by the new co-chairmen, Ian Smith (Baker Institute, Melbourne) and John Wade (Howard Florey Institute, Melbourne). The 4th International Peptide Symposium to be held on Hamilton Island in 2007 was also announced.

Contributed by Raniero Rocchi EPS Chairman

## 2nd CRETE MULTIDISCIPLINARY WORKSHOP SELF-ASSEMBLY OF PEPTIDES AND PROTEINS

In July 2001, 130 scientists from Europe, Japan and the USA assembled on Crete to attend the 2nd multidisciplinary workshop on "Peptide and Protein Self-Assembly", the first meeting having been held two years earlier and attracting 80 participants. A significant growth in interest in this emerging endeavour. So what is the attraction?

In the case of proteins, the focus was on the way in which they assemble into complex aggregates which function as the molecular machines of living cells. However discussions of the intrinsic self-assembly behaviour that peptides undergo was the predominant topic. Papers fell into three thematic areas.

*Biology:* studies of model systems to address fundamental issues of protein folding and protein-protein interactions, for example, how do proteins recognise their partners to form higher order structures in a seemingly improbable environment?

Nanostructured materials and devices: in an exciting development it has been demonstrated that peptide self-assembly can be exploited to produce polymers with precise control of molecular architecture, a goal that has alluded the polymer chemist. This is not an improbable objective as peptides could eventually be produced inexpensively by introducing artificial genes in the genome of bacteria or plants. The latter has implications for the long term management of the countryside.

Medical problems: degenerative diseases such as Alzheimer's, Huntington's and Parkinson's, BSE and so on all involve formation of amyloids by assembling misfolded proteins. This is stimulating both fundamental studies and efforts to identify inhibitors to delay the onset of the disease.

These are quite diverse activities, but with peptide self-assembly as a unifying theme. This provided for active and constructive discussions of the presentations by the multidisciplinary audience, the distinctive characteristics of the workshop. The on-the-beach venue and the agreeable local tavernas were undoubtedly conducive to scientific exchanges. But of course the workshop was practicable only because of its generous supporters, and we acknowledge the generosity of the EPS in this context.

Contributed by Amalia Aggeli, Michael Hecht, Shunguang Zang and Neville Boden.

### **27th LORNE CONFERENCE**

The 27th Annual Lorne Protein Structure and Function Conference was held 10-14 February 2002 at the seaside town of Lorne, near Melbourne. The primary theme was the recent publication of the human genome sequence, and two key questions were asked. These were: "What will be the research tools of the future to allow us to exploit our knowledge of the genome" and "Which direction will peptide and protein science head in the post-genome era?" With this background, the 450-plus delegates were treated to an outstanding week of excellent science mixed with convivial informality at a superb location that was blessed with fine weather. The program consisted of fourteen oral and three poster sessions, covering subjects as diverse as proteomics, structure-based drug design, cell signalling and key structural technologies. Within each session were several excellent themes including structural genomics. Particularly impressive were the presentations by Shigeyuki Yokoyama (RIKEN Genome Sciences Center, Japan) and Steve Burley (Rockefeller, New York,) whose laboratories are intending to solve no less than two new protein structures per week as contributions to increasing the number of structures currently in the Protein Databank towards the ~500,000 that might be possible given the current and forecast genome sequence information. Richard Perham (Cambridge, UK) presented the Leach Lecture on multifunctional enzyme complexes of a size that often exceed the ribosome in size. The docking of each component of the complex is often mediated via unique, conformationally flexible linker regions known as "swinging arms". Information about the 28th Conference to be held in February 2003 will be posted on the official site at http://www.biochemistry.unimelb.edu.au/lorne/

Contributed by John Wade

#### 3rd HELLENIC FORUM

The 3rd Hellenic Forum on Bioactive Peptides was held again at the Conference and Cultural Centre of the University of Patras 11-14 April 2002, under the auspices of the University of Patras and the Leonidas Zervas Foundation. The Forum was organized by the Department of Pharmacy of the University of Patras, and it was very successful, having an attendance of 230 participants and a scientific programme which included 19 invited lectures, 9 short oral presentations from young Greek scientists and 56 poster presentations.



Raneiro Rocchi, who concluded his address in flawless Greek

During the Opening Session the Forum Chairman Prof. Paul Cordopatis invited the Chairman of the European Peptide Society Prof. Raniero Rocchi (Padova, Italy) to address the audience, who surprised the participants at the end of his speech with a concluding remark in flawless Greek. The session continued with the Leonidas Zervas Foundation's awards for young Greek researchers announced by the chairman of the Foundation, Prof. Dimitrios Theodoropoulos, and the plenary lecture of Prof. Victor Hruby (Tucson, USA), entitled Peptide and Peptide Mimetic Drug Design: New Paradigms, New Opportunities, New Ethical Concerns. The first evening was concluded with a String Quartet Concert and the Welcome Reception cocktail at the foyer of the UPCCC.

The invited speakers who covered the scientific sessions of the next two days represented 10 countries and 15 Academic Institutions and they were: Fernando Albericio (Barcelona), Michael Alexis (Athens), David Andreu (Barcelona), Ettore Benedetti (Napoli), Alex Eberle (Basel), Roger Epton (UK), Jean–Alain Fehrentz (Montpellier), Chaim Gilon (Jerusalem), Ernest Giralt (Barcelona), Ferenc Hudecz (Budapest), Jean

Martinez (Montpellier), Haralambos Moutsopoulos (Athens), Dionissios Papaioannou (Patras), Maria Sakarellos–Daitsiotis (Ioannina), Jirina Slaninová (Prague), Christos Stournaras (Irakleion), Claudio Toniolo (Padova), Vassilios Tsikaris (Ioannina) and Chryssa Tzougraki (Athens). The Forum Proceedings will be published as previously in English (Crete University Press 1997, Typorama 2001) and they will be ready by next winter.



**Invited Forum Speakers** 



Paul Cordopatis, Forum Chairman

The official languages were both Greek and English with a full translation service, a fact that in combination with the excellent speakers and the unexpectedly rainy weather kept the auditorium full even in the longest sessions. In addition to the scientific programme the participants had the opportunity of attending a Waters/Malva workshop and to visit the Chemical and Biopharmaceutical Laboratories of Patras (CBL Patras, Prof. K. Barlos), which was recently awarded with the title of Best Provider for 2001 by the Roche Colorado Corporation, USA. Another event which took place during this 3rd Forum was that the Hellenic peptide community, almost fully represented in the Forum sessions, accepted the proposal of the Chairman for the foundation in the near future of the Hellenic Peptide Society.

The Forum was rounded off with the Banquet, which was given on the first floor of the UPCCC overlooking the Gulf of Patraïkos, and it was concluded with the visit to the archaeological site of ancient Olympia at a distance of 110 km south of Patras. The fine Sunday morning weather gave the opportunity to the participants, apart from the museum visit

and the Praxiteles' statue of Hermes, to walk in the Sacred Altis and to run across the oldest stadium of the historical world. The day finished at the Domaine Merkouri, one of the best-known wine-producing estates of Peloponnese, where the fine wines and the taste of Greek olive oil and bread, had proven that modern Greece creates and lives in the present preserving the taste and the spirit of the past. In all aspects the Forum was a success, and this third meeting showed that the HFBP is now established as an important regional peptide symposium in Europe with its own character and scientific contribution.

Contributed by Paul Cordopatis

#### **PEPTIDES IN SIENA**

The survey *Peptides in Italy* which appeared in the last Newsletter by a most regrettable oversight failed to mention the flourishing peptide centre at Siena. To make amends, our colleagues there have been asked to provide a note on their work and a photograph, which appear below.



The Siena Peptide Group Left to right: Neri Niccolai, Chiara Falciani, Luisa Bracci, Silvia Scali, Luisa Lozzi, Paolo Neri

There has been peptide science in Siena since the early eighties, when Paolo Neri, Luisa Bracci and Luisa Lozzi at the Department of Chemistry and at the Sclavo Research Center became involved in peptide synthesis and the use of peptides as synthetic antigens or immunogens, while Neri Niccolai at the Department of Chemistry was studying peptide structure. The peptide group is currently based at the Molecular Biology Department of the University of Siena, and works essentially on the synthesis of peptide libraries on different solid supports, aiming to develop peptide mimotopes as soluble inhibitors of protein-protein interactions. NMR and molecular modelling are extensively used to investigate the molecular basis of protein-protein interactions. Recently the group applied for a patent concerning peptide inhibitors of cobra neurotoxins, derived from the ligand site of the acetylcholine nicotinic receptor.

Composed by the Editor from notes provided by Siena colleagues

#### **BRIEF REVIEWS**

J Slaninová (Ed). Biologically Active Peptides. VIth Conference, Prague, 25-27 April 2001. Collection Symposium Series, 2001, **4**. iv + 123 pp + indexes. ISBN 80-86241-14-9.

This volume comprises presentations (in English) to a Czech national conference with international participation which was staged at the Institute of Organic Chemistry and Biochemistry of the Academy of Sciences of the Czech Republic. The wide spectrum of activity in peptide science in the Czech Republic is well illustrated, and it would be invidious to pick out particular scientific contributions, but the overview "Peptide production and connected paperwork" by Martin Flegel is especially illuminating for its insights into the problems faced by those who have to see peptide science through to the market. Exasperated by the strait-jackets of bureaucracy, he has a colourful turn of phrase which both entertains and makes his point forcefully. He writes, for example, of "the recent hysteric requirements concerning raw materials (amino acids and derivatives), and their possible contamination with prions" so that "producers of amino acid derivatives and synthetic peptides are now exposed to quite ridiculous pressure and enormous paperwork", concluding "I believe that the whole peptide community should fight against the almost medieval prevention rules which seems to be similar to the pest precautions during our sweet past. I believe that science and chemistry should win this fight against the officers and paper swallowers". Amen to that but what we really need is a few peptide scientists in politics who can understand what is going on. There was one in the British House of Commons until, alas, he was displaced at the last election - one of the few Labour Members to be unseated.

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AL Smith, M Brazil, and P Kirkpatrick (Eds.). *Nature Reviews. Drug Discovery.* Volume 1, no. 1, January 2002. Monthly. ISSN 1471-1776.

The Nature Publishing Group, onto a winning thing, have added *Drug Discovery* to their family of monthly review journals, bringing the total to six. I have the first three issues before me as I write. Attractively produced and superbly illustrated, no doubt on the back of a substantial advertising income, it is a browsing must for all involved not only in drug discovery, but in all stages from concept to patient. It is the Editor's intention to range (I quote from the website) "across the entire field, from chemistry to disease mechanisms and novel therapeutic approaches", acting "as the essential guide for those navigating the evolving world of drug discovery ....... eroding the traditional barriers between academia and industry", and aiming at all "who share an interest in any aspect of drug discovery and development." The subjects to be covered will include (lifted from the same statement of scope):-

Target discovery Rational drug design

Combinatorial and parallel synthesis

Medicinal chemistry Key compound classes Natural products

High-throughput screening

Novel therapeutic approaches to disease states

Microarrays

Bioinformatics and chemoinformatics Absorption, distribution, metabolism and

elimination (ADME)

Pharmacokinetics and pharmacodynamics

Pharmacology Toxicology

Pharmacogenomics and toxicogenomics

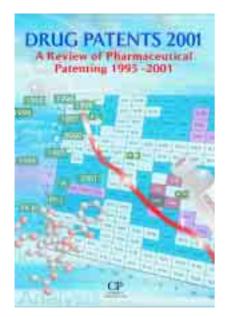
Drug delivery Biopharmaceuticals Biotechnology Vaccines

Clinical trial evaluation Regulatory issues Pharmacoeconomics

The three issues seen (which were electronically accessible without charge on 13 March 2002) do indeed cover that range (and more – there are patent watch and careers sections too) and cover it well in reviews, highlights, editorial comment and so on. Literature references and links are given to enable the reader to take off. The only thing I can pick on to criticise is that the house style print size is mostly smaller than these ageing eyes find comfortable, and is in places positively miniscule. Overall, however the Editors are to be congratulated, and no doubt the proprietors are congratulating themselves for their bulging wallets already.

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Current Patents Ltd. *Drug Patents 2001*. ii + 435 pp, 2001. ISBN 0-9541202-0-5.



About one-fifth of worldwide patenting activity now has some sort of pharmaceutical or medical slant to it, and in the first twenty weeks of the year 2001, 422 out of 5003 classified applications in that area, i.e. about 8%, bore the International Patent Classification code C07K, for peptides. No doubt many others resting on peptide science are hidden under other labels.

Current Patents Ltd (www.current-patents.com) was established in 1998 to provide patents-based competitive intelligence to the pharmaceutical and related sectors, working closely within Current Drugs Ltd (www.current-drugs.com). It is led by Peter Steele, a specialist in pharmaceutical patents information who was head of Glaxo's Intellectual Property Information Unit for 16 years and represents patents analysts on a British Library advisory committee. The Current Patents team have now produced *Drug Patents 2001*, a reference tool based on the statistical analysis of patents in the pharmaceutical and biotech field 1995-2001. The information and indexing is drawn from the Current Drugs weekly therapeutic patent monitoring service *Patent* 

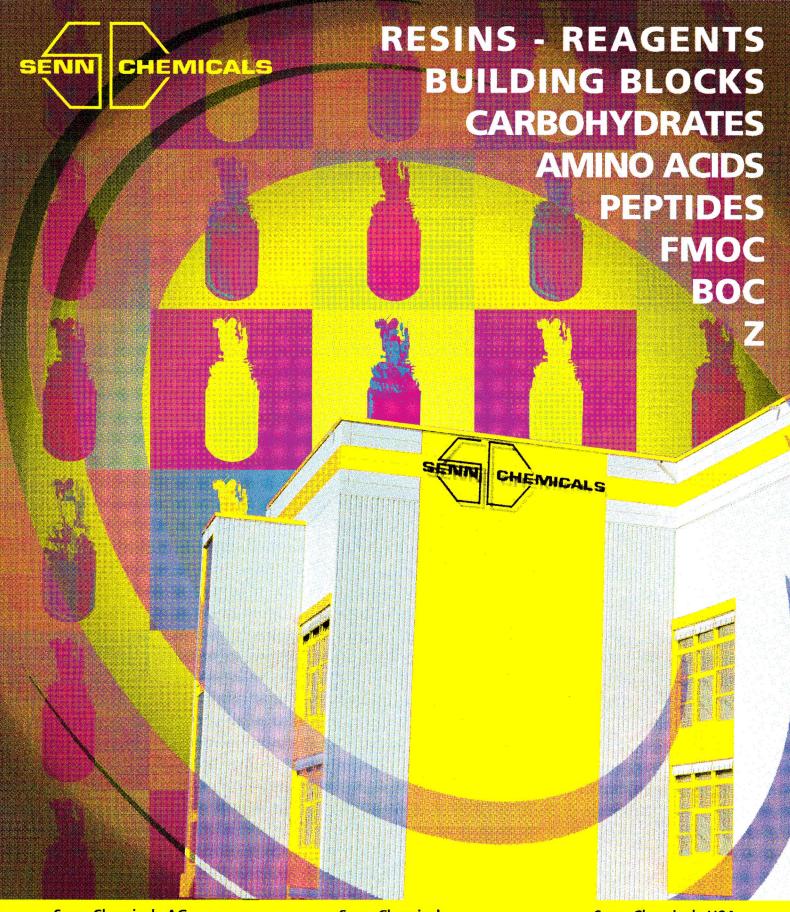
Fast-Alert (ISSN 1462-2394), supplemented by detailed bibliographic data from the International Patent Documentation Center. There are more than 47,000 patents in the analysis, including some 8,000 published during the year 2001. The organisation of the information in *Drug Patents 2001* is mainly into company profiles. The outputs of the top (in patent-prolific terms) 40 companies, 25 academic institutions, 10 start-up companies less than a decade old, and 15 niche companies, are subjected to scrutiny. Each profile includes analysis based on patent history, therapeutic classes versus time and trend, pharmacological targets versus time and trend, a factorial map showing the movement of each company's patent activity and a collaboration map detailing R&D partnerships. Drug Patents 2001 is composed primarily of elegantly presented graphs and charts with only bullet text to highlight notable observations. It is a tool that will prove very valuable to those associated with pharmaceutical marketing, investment strategy and forecasting drug research and discovery trends, and laboratory foot soldiers will find many eye-openers in it too. (S)he who would gaze into the crystal ball for signs of who may swallow whom and where the money and jobs may be in a few years' time would be well advised to look here. At £995 a copy it sounds expensive for a reference work which by its nature must be ephemeral in value except to historians of science and industry, but it is an intelligence instrument bearing on strategic decision-making involving sums beside which a thousand pounds is peanuts.

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CJ Dutton, MA Haxell, HAI McArthur, and RG Wax (Eds.). *Peptide Antibiotics. Discovery, Modes of Action, and Applications*. Dekker, 2002. ISBN 0-8247-0245-X.

The title of this valuable little book needs more definition, and the publisher's blurb which implies panoramic inclusivity is misleading. Many peptides or near-peptides with antibiotic activity get no mention at all – gramicidin S, the actinomycins, penicillins, cephalosporins, bacitracins – or practically no treatment – vancomycin, polymixins, alamethicin. The exact date of going to press is not stated, but it missed exciting work on cyclic peptide nanotubes which was highlighted last year in *Chemical and Engineering News* under the headline "BACTERIA: BEWARE! Self-assembled cyclic peptide nanotubes potentially offer a powerful new approach to treating bacterial infections" [August 6, 2001, **79** (32), 41; see also *Nature*, 2001, 412, 452]. Google throws up over 1000 hits for "peptide antibiotics", many of them outwith the coverage of the present book. The syllabus is not explicitly defined, but appears to be antibiotics which are "real" peptides, that is peptides biosynthesised under direct gene control, or their post-translational modifications. Within this sphere – an increasingly important one – this is a useful book. Its chapter headings are: Introduction to peptide antibiotics; Chemistry and applications of synthetic antimicrobial peptides; Lanthionine-containing bacterial peptides; Unmodified peptide-bacteriocins (Class II) produced by lactic acid bacteria; Insect cationic antimicrobial peptides; Mammalian antimicrobial peptides; Exploitation of lantibiotic peptides for food and medical uses; and Amphibian antimicrobial peptides.

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#### **Senn Chemicals AG**

Industriestrasse 12 P.O. BOX 267 CH-8157 DIELSDORF SWITZERLAND Tél. (+41) 1-854 90 54 Fax (+41) 1-854-90 55 swiss@sennchem.com

#### Senn Chemicals International

11, rue Jean Baptiste Clément F-94250 GENTILLY FRANCE Tél. (+33) (0) 1-49 69 10 60 Fax (+33) (0) 1-49 69 10 64 france@sennchem.com

#### Senn Chemicals USA

11189 Sorrento Valley Rd. Suite # 4 San Diego, CA 92121 USA Tel. (+1) 858 450 60 91 Fax. (+1) 858 450 60 96

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JS Davies (Senior Reporter, i.e. Ed.). *Amino Acids Peptides and Proteins*, 2001, **32**. A Royal Society of Chemistry Specialist Periodical Report, surveying the literature of 1999. ISBN 0-85404-232-6.

When this thirty-second annual survey arrived, I felt my age, as John Davies no doubt felt his, for we both contributed to the first volume in the series, covering the literature of 1968. Browsing through what I wrote on peptide synthesis then, I see that I was cooler than I ought to have been over the SPPS of ribonuclease (actually published very early in 1969, but squeezed in), but looked into the future (i.e. now) with fair perception. I even predicted the preparation of protein analogues by genetic engineering, but I must have had that thought put into my mind by something I had read or by talking to Geoffrey Young who was then Senior Reporter and still my mentor – the basic concept of genetic engineering was recognised by Emil Fischer¹ in any case. I seem to have been more impressed by the completion of the synthesis of glucagon by Erich Wünsch and his colleagues than anything else that year – rightly perhaps. But I wonder whether I felt that way because the synthesis conformed to classical criteria – intermediates were rigorously characterised and the end product was crystalline. SPPS was still not really cricket.

I cited 213 peptide synthesis references in volume 1; Donald Elmore cites 777 in volume 32. Similar expansion is evident in other areas – I cited 285 on amino acids in volume 1 compared to Graham Barrett's 1134 in volume 32. Greater compression has thus gradually been imposed, but the result is still (perhaps even more) valuable as a summary of recent advances in amino acid, peptide, and protein chemistry, although the time needed to write and produce the Report has doubled. The chapters in this Report are; Amino acids (Graham C Barrett); Peptide synthesis (Donald T Elmore); Analogue and conformational studies on peptides, hormones and other biologically active peptides (A and S Dutta); Cyclic, modified and conjugated peptides (John S Davies); Current trends in protein research (Jennifer A Littlechild). At £189.50 for 360 pages packed tight with information and citations, it is pretty good value. Individual chapters are available for 30 days online separately, and can be downloaded and printed – but the cost of that is relatively high (£115 +VAT in the EU for Graham Barrett's chapter of 106 pp).

Contributed by the Editor

1. B Witkop, in his Prologue (p. xxi) to E Fischer Aus meinem Leben, reprinted by Springer Verlag, 1987.



## MISCELLANEOUS NOTES AND NEWS IN BRIEF

- The 18th American Peptide Symposium, "Peptide Revolution Genomics, Proteomics and Therapeutics" will be held 19-23 July 2003 in Boston, Massachusetts, USA. For further information contact co-chair Dr Tomi Sawyer, e-mail tomi.sawyer@ariad.com or co-chair Dr Michael Chorev, e-mail michael\_chorev@hms.Harvard.edu
- The 2nd General Meeting of the International Proteolysis Society (IPS), associated with the
  International Conference on Protease Inhibitors (ICPI) was held, with EPS financial support, in Freising
  near Munich, Germany, 31 October 4 November 2001. We understand that a full report will be
  published in *Peptide and Protein Letters*.
- An alert disciple has tipped us off that Dr RC Sheppard has reached his three score years and ten, and we send him our warm good wishes for many more. No other living European has made such a seminal contribution to peptide science as he did with the Fmoc-t-butyl-polyamide approach. This was foreshadowed in an invited lecture he delivered at EPS-11 in Vienna over thirty years ago, which he himself with typical modesty more recently thought "naïve in places", while grudgingly admitting that it "showed some foresight in drawing attention to some areas of potential future development".



**Bob and Maureen Sheppard** 

- Senn Chemicals, one of the Society's most faithful Sponsors, has acquired the Bioresearch UNCA
  licence and their San Diego (Sorrento Valley Road) facility, which is being refurbished for Senn
  Chemicals USA to relocate there. This will enable them to produce lab quantities of protected aminoacids etc and store products in the USA for the better service of their American customers.
- The 38th Japanese Peptide symposium took place at Nagasaki 3-5 October last year; Haruhiko Aoyagi was Chairperson and has edited the Proceedings, a handsome volume uniform with its predecessors which arrived in Oxford just six months after the conclusion of the Symposium, following the commendable tradition of brisk publication set by its predecessors. For bibliographic details see the New Book Notices section. A notable development evident in the Proceedings is the increasing mutual interaction between Japanese and Korean peptide science, and the growth of the latter.
- The new (delivered in Oxford April 2002) Novabiochem 2002/3 Catalog contains updated Synthesis Notes, edited by P White, B Dörner and R Steinauer. It comprises about 200 pages of close packed information, including many useful protocols, valuable discussion and references. Of course it is advertising material, but not unbalanced for all that no more so than much academic literature and it is a little difficult to navigate in it because it is so compressed (for the same reason extra good eyesight is sometimes necessary), but it is free, and we must be grateful for gift horses.

Compiled by the Editor

#### **NEW PUBLICATION NOTICES**

Information has been received on the following new books, journals, conference proceedings etc. which may be of interest to Members. Notices will be repeated in a future issue if it is necessary to correct them or desirable to provide fuller information. Suggestions for future entries in this section should be sent to the Editor, who will welcome them: full data should be provided, including the ISBN or ISSN.

AMINO ACID AND PEPTIDE SYNTHESIS Second edition. J[H] Jones. 92pp, 2002. OUP.

ISBN 0199257388.

AMINO ACIDS, PEPTIDES AND PROTEINS For a brief review and bibliographic information, see the Brief Reviews section above.

APTOSIS AND AUTOIMMUNITY Ed. J Kalden and M Herrmann. 350pp, 2002. Wiley-VCH. ISBN 3527-30442-8.

BIOLOGICALLY ACTIVE PEPTIDES

For a brief review and bibliographic information, see the Brief Reviews section above.

DRUG DELIVERY KA Connors. 300pp, 2002. Wiley. ISBN 0471-20239-8.

DRUG PATENTS 2001

For a brief review and bibliographic information, see the Brief Reviews section above.

ENZYME CATALYSIS IN ORGANIC SYNTHESIS Second edition.
Ed. KH Drawz and H Waldemann.
1500pp, 2002. Wiley-VCH.
ISBN 3527-29949-1.

HANDBOOK OF COMBINATORIAL CHEMISTRY Ed. KC Nicolaou, R Hanko and W Hartwig. 2 vols, 2002. Wiley. ISBN 3527-30509-2.

HYDROLYSIS IN DRUG AND PRODRUG METABOLISM
B Testa and J Mayer.
400pp, 2002. Wiley-VCH.
ISBN 3906390-25-X.

MOLECULAR CHAPERONES IN THE CELL Ed. P Lund. 281pp, 2001. OUP. ISBN 0-19963868-3 (hardcover) and 0-19963867-5 (paperback).

NATURE REVIEWS. DRUG DISCOVERY For a brief review and bibliographic information, see the Brief Reviews section above.

#### PEPTIDE ANTIBIOTICS

For a brief review and bibliographic information, see the Brief Reviews section above.

PEPTIDE SCIENCE 2001
Proceedings of the 38th Japanese Peptide
Symposium, 2001.
Ed. H Aoyagi.

xxi + 425 pp, 2002. Japanese Peptide Society. ISBN 4-931541-02-x, ISSN 1344-7661

PHARMACEUTICAL CHEMISTRY C Bladon. 200pp, 2002. Wiley. ISBN 0471-49636-7 and 0471-49637-5.

PROTEINS, PEPTIDES AND AMINO ACIDS SOURCEBOOK

An "exhaustive catalog of over 26,000 commercially available proteins, peptides and amino acids".

JS White and DC White.

1080pp, 2002. Humana Press.
ISBN 0-89603-613-8.

PHARMACEUTICAL PROCESS SCALE-UP Ed. M Levin. 560pp, 2001. Dekker. ISBN 0-8247-0625-0.

SUPRAMOLECULAR CHEMISTRY OF BIOMIMETIC SYSTEMS T Kunitake. 400pp, 2002. Wiley. ISBN 0471-97921-X.

SYNTHESIS OF \( \beta\)-LACTAM ANTIBIOTICS Ed. A Bruggink. 335pp, 2001. Kluwer. ISBN 0-7923-7060-0.

SYNTHESIS OF PEPTIDES AND PEPTIDOMIMETICS

For a review and bibliographic information, see the front cover.

THE AMIDE LINKAGE Ed. A Greenberg, CM Breneman and JF Liebman. xii + 653pp, 2000. Wiley-Interscience. ISBN 0471-35893-2.

THE PROTEIN PROTOCOLS HANDBOOK Second edition.
Ed. JM Walker.
1200pp, 2002. Humana Press.
ISBN 0-89603-940-4 (hardcover) and 0-89603-941-2 (paperback).

## CALENDAR OF SOCIETY MEETINGS

An exhaustive list of meetings relevant to the interests of members used to be given under this heading, but as from January 1999 this list, updated every month, has been printed in the *J.Peptide Sci*. It was felt that this would be much more useful to the Peptide Community because of the greater frequency of publication. Organisers of Meetings are asked to continue feeding the Editor with information, however. The Newsletter Calendar now only lists Society Symposia and Small Meetings being arranged under its auspices. Listing here does not preclude a subsequent review in the Newsletter or *J.Peptide Sci*. Several very useful relevant calendars of meetings are in any case now available electronically: the Editor's favourite starting point for these – and many other valuable links as well – is the site overseen by Roger Epton, <a href="http://www.biocom.co.uk/">http://www.biocom.co.uk/</a>

7th CHINESE PEPTIDE SYMPOSIUM 2-7 July 2002, Dalian, China. Chairman Prof Y.C. Du [duyc@sunm.shcnc.ac.cn]

#### 27th EUROPEAN PEPTIDE SYMPOSIUM

31 August - 6 September 2002, Sorrento, Italy.

http://www.27eps.unina.it

Chairman Professor E Benedetti [e-mail 27eps@unina.it].

PEPTAIBOLS: BIOSYNTHESIS, STRUCTURAL DIVERSITY, BIOACTIVITY AND MODE OF ACTION

A Workshop

9-11 October, 2002, Jena, Germany.

Organiser Prof Dr U Gräfe [ugraefe@pmail,hki-jena.de]

8th INTERNATIONAL SYMPOSIUM, SOLID PHASE SYNTHESIS AND COMBINATORIAL CHEMICAL LIBRARIES

2-6 September 2003, Imperial College, London, UK.

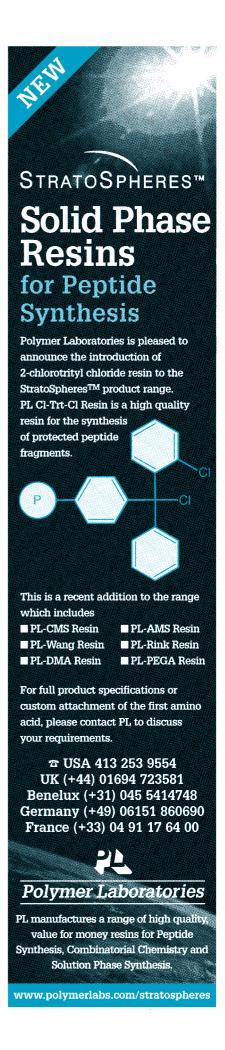
http://www.biocom.co.uk/sps2003.htm

Professor Roger Epton [e-mail r.epton@mayflower.demon.co.uk]

#### 28th EUROPEAN PEPTIDE SYMPOSIUM

5-10 September 2004, Prague.

EPS-28, which will also be IPS-3, will be arranged under joint Israeli and Czech organisation with M Fridkin, M Flegel, C Gilon and J Slaninová as Co-Chairpersons.



#### **SOCIETY NEWS**

#### The EPS Website

The website of the Society has been moved from Swansea to Budapest. The new address of the EPS homepage is <a href="http://eps.chem.elte.hu/">http://eps.chem.elte.hu/</a> This was made possible by the help of Dr JS Davies. The Executive Committee expressed its sincere thanks for his help with this transfer. The website has been developed under the supervision of the Secretary. It contains at present: the EPS Statutes and Bye-Laws, a list of Council Members and Society Officers since the foundation of the Society, a list of previous Symposia, a list of Proceedings book titles, a list of Rudinger and Zervas Awardees, a list of Sponsors, and guidelines for organising small meetings under Society auspices. Further development has been postponed pending consideration of proposals from Wiley to develop a site to cover peptide science and provide microsites for several Peptide Societies. Suggestions from Members are welcome.

SOCIETY WEBSITE http://eps.chem.elte.hu/

#### The Scientific Sub-Committee

Considering the decision of the Council on the rotation of membership the Executive Committee invited Dr Morten Meldal (Denmark) and Prof Vadim Ivanov (Russia) to join the Scientific Sub-Committee. The Chairman of the Society expressed his sincere thanks for their highly valuable past service on the Committee to Dr Anand Dutta (Astra Zeneca Pharmaceuticals, UK) and Professor Sándor Bajusz (IVEX – Drug Research Institute, Budapest, Hungary). The terms of office of the Scientific Sub-Committee are as follows: Chairperson: Prof Hélène Gras-Masse (1998-2002), Members: Prof David Andreu (1999-2003), Prof Anette Beck-Sickinger (1999-2003), Prof Vadim Ivanov (2001-2005), Dr Morten Meldal (2001-2005).

### EPS Sponsored-Meetings in 2000-2001

From the Small Meetings Fund the following conferences were supported by the EPS during this period: Symposium on Biological Chirality, 27-31 August, 2000, Szeged, Hungary, £1000; 7th Naples Workshop on Bioactive peptides and 2nd Peptide Engineering Meeting, 5-8 September, 2000, Capri, Italy, £1000; Signalling Neuropeptides and Conformation of Macromolecules, Workshop, 19-21 September, 2000, Moscow, Russia, £500; 2nd Multidisciplinary Workshop on Self-Assembly of Peptides and Proteins in Biology, Medicine, and Engineering, 13-17 July, 2001, Crete, Greece, £1000; 5th German Peptide Symposium, 11-14 March, 2001, Bielefeld, Germany, £500; 16th Polish Peptide Symposium, 1-4 September, 2001, Cracow, Poland, £500; 4th Peptide- and Proteinomimetics Symposium, 9-14 September, 2001, Spa, Belgium, £500.

Ferenc Hudecz EPS Secretary

## **GUIDELINES FOR OBTAINING FINANCIAL SUPPORT** FOR SMALL MEETINGS FROM THE SOCIETY

It is one of the goals of the Society to assist the organisers of small meetings and workshops on peptide topics, not only with expert counselling, and publicity through the Newsletter, but also financially.

- 1. Applications for financial assistance should be made simultaneously to the Secretary and the Scientific Affairs Member of the Executive Committee at least three (and preferably six) months in advance.
- 2. At least one of the organisers must be an EPS member.
- 3. The topics to be covered must be concerned with peptides, and not exclusively relevant to proteins. Details of the programme being planned should be given.
- 4. The credit "Under the auspices of the European Peptide Society" must appear on the meeting circulars, and in any publications.
- 5. All Society members must in principle have access to the meeting, but the organisers may limit the number of participants. The official language of the meeting must be English.
- 6. No part of the Society grant may be used for personal expenses.
- 7. The Society grant will normally be made by bank transfer, and it will expedite matters if organisers give account details when they apply.
- 8. The organiser who makes the application is required to submit a short report of 1-2 pages of A4 typescript to the Scientific Affairs Member within a month of the conclusion of the meeting. A copy should also be sent, with two or three photographs if at all possible, to the Newsletter Editor, who will publish an edited version.
- 9. Other things being equal, meetings with a substantial number of young people attending will be favoured.

Ferenc Hudecz EPS Secretary

## **ELECTION OF NATIONAL REPRESENTATIVES** TO COUNCIL

National Representatives on Council are elected every four years. Following a period of nomination and balloting, the list of National Representatives for the period September 2002 - 2006, is confirmed as:

> **Austria:** H Ahorn Belgium: D Tourwé **Bulgaria:** L Vezenkov Croatia: B Vranešić

Czech Republic: J Slaninová

**Denmark:** M Meldal Finland: H Lankinen **France:** H Gras-Masse **Germany:** L Moroder **Greece:** P Cordopatis **Hungary:** F Hudecz Israel: C Gilon

Italy: C Toniolo

Portugal: HLS Maia **Russian Federation:** AY Surovoy

Slovakia: S Zorad Slovenia: P Pristovsek **Spain:** E Giralt

Sweden: L. Baltzer

**Latvia:** U Kaleis

Norway: O Rekdal

Poland: K Rolka

Switzerland: G Tuchscherer **United Kingdom:** BM Austen

**Netherlands:** WMM Schaaper

#### Congratulations!

No nominations were received from Belarus or the Ukraine. Future nominations from these countries will be considered later by the Executive Committee.

> Ferenc Hudecz **EPS** Secretary

## YEAR 2002 AWARDS EPS-27, Sorrento September 2002

## JOSEF RUDINGER MEMORIAL LECTURE Sponsored by PolyPeptide Laboratories

This Award is presented "in commemoration of Josef Rudinger's role in the foundation of the European Peptide Symposia and of the diverse contributions he made to peptide chemistry." There is no restriction as to the nationality, age or position of those nominated, but they must be distinguished.

The Josef Rudinger Memorial Lecture Award for 2002 is shared between Sándor Bajusz and Kálmán Medzihradszky.

## LEONIDES ZERVAS AWARD Sponsored by Bachem AG Switzerland

This Award is presented "to the scientist who has in the opinion of the Council of the Society made the most outstanding contribution to the chemistry, biochemistry, or biology of peptides in the five years preceding the date of selection." There is no restriction as to the nationality or position of the candidate, but the regulations give preference to younger candidates.

The Leonides Zervas Awardee for 2002 is Tom Muir.

Ferenc Hudecz EPS Secretary

### **SPONSORS**

The Society is warmly grateful to its subscribing Sponsors, who were as listed below in the calendar year 2001.

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### **SOCIETY OFFICERS**

Professor Raniero Rocchi
(Chairman)

Dipartimento Di Chimica Organica
Università Degli Studi
Via Marzolo 1
35131 PADOVA
ITALY

Fax: +39 049 827 5239 *e-mail*: rocchi@chor.unipd.it

Professor Ferenc Hudecz
(Secretary)
Hungarian Academy of Sciences
Eötvös Loránd University
Budapest 112
PO Box 32, H-1518
HUNGARY
Fax: + 36 1 372 2620

Dr. John Jones (Treasurer) Balliol College OXFORD OX1 3BJ UK

e-mail: fhudecz@ludens.elte.hu

Fax: + 44 1865 277803 e-mail: john.jones@balliol.ox.ac.uk

Professor Hélène Gras-Masse (Scientific Affairs Officer) Institut Pasteur de Lille URA CNRS 8525 59021 LILLE FRANCE

Fax: +33 3 20 87 12 33 e-mail: helene.gras@pasteur-lille.fr

## SOCIETY WEBSITE http://eps.chem.elte.hu/

Newsletter Editor Dr JH Jones Balliol College, Oxford OX1 3BJ, UK.

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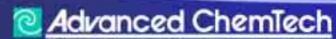
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