



27th European Peptide Symposium in Italy

by Dr. Arno F. Spatola
Society Secretary

Torna a Sorrento! After a memorable week (August 31-September 5, 2002) in one of the world's loveliest spots, we are sure many of the 1200 or so participants of the 27th European Peptide Symposium will heed the words to the famous Neapolitan song. A "Return to Sorrento" may not provide you any more glimpses of the nearly 550 posters or 78 lectures on peptide-related research, but the curved roadways, steep cliffs, and breath-taking drives along the Amalfi Coast will still be there.

Peptide chemistry has, of course, been at the forefront of many scientific firsts including solid phase synthesis, peptidomimetics, and combinatorial chemistry. The 27th EPS meeting showed that this leadership continues with work in protein arrays, biomaterials, inhibitors of protein-protein interactions (with the challenge of competing with huge binding surfaces of over 1500 square angstroms), and the emerging study of peptidomics, involving the simultaneous analysis of, for example, immense protein degradation pools.

Professor Ettore "Bibi" Benedetti, his coworkers, and the organizing committee treated attendees to Nobel laureate Robert Huber (proteasomes) as well as the Rudinger (S. Bajusz and K. Medzihradzky, Hungary) and Zervas (Tom Muir, Rockefeller) award winners.

Lectures also focused on new biologically active peptides including the surprising report that an insulin cousin (insulin 3) binds to a different class of receptors (GPCRs) than does insulin. Cyclic peptides of various types were omnipresent, although a peptide of only twenty residues was shown to form an exceptionally stable cage structure without the benefit of any additional degree of unsaturation (disulfide or amide).

In addition, extensive structural diversity was featured, both natural (inhibitors, cystine knot peptides, peptide toxins, zinc fingers, peptaibols) and synthetic (glycopeptides, pseudopeptides, nucleopeptides, various cyclic variants, metal templates, dendrimers, foldamers). Peptide engineering was another major theme, with many imaginative uses of

Torna a Sorrento!

Also In This Issue:

Honoring the Fischer Centennial at the 27th EPS

2002 Dr. Bert L. Schram Award

Impressions of the 27th EPS: an interview with Dr. Jean Rivier

2002 Akabori Memorial Award

2003 Arthur C. Cope Scholar Award



Drs. Carlo Pedoni (left) and Ettore "Bibi" Benedetti, chair of the 27th EPS

27th European Peptide Symposium in Italy

(continued from Page 1)

peptides and peptide conjugates to create new structures and materials.

The poster session was as usual a very popular venue, with synthesis, structure, and biological actions featured in virtually equal quantities. As with the lectures, much effort deals with new modes of peptide delivery, including the use of diverse transport sequences with equally varied modes of action. As usual, virtually all diseases imaginable have some prospective peptides as one form of therapy, and many were presented in these papers. Peptides and their uses in immunology continue to provide a sizable proportion of cutting-edge research, even as a peptide known as T-20 emerges as a new and powerful response to the AIDS epidemic.



(From left) Drs. Ettore Benedetti, Murray Goodman, and Roniero Rocchi

In spite of impressive achievements in peptide synthesis, the continued demand for better coupling agents was evident. Reports that triphosgene is an inexpensive and yet powerful condensing reagent were emphasized in several presentations.

The lecture winning the award for most likely to appear in the evening news had to be one on “Extraterrestrial amino acids” concerning the huge amounts of tetrasubstituted amino acids found in meteorites, and whose enantiomeric excesses may provide the seeds of primordial chirality.

Certainly a highlight of the event was the Tuesday morning symposium in honor of Emil Fischer and the 100th anniversary of peptide science, provided by such luminaries as G. Marshall, R. Sheppard, V. Ivanov, R. Huber, H. Kunz, S. Kent, and concluded with a moving tribute by M. Goodman in celebration of the milestone.

The Toniolo group (Padova, Italy) duplicated the preparation of the eighteen amino acid sequence originally prepared by Fischer and documented the unexpected difficulty of the synthesis and its aggregation-prone polyglycine oligomers segment.

The meeting culminated with, first, a Thursday evening traditional banquet, with song, and classic regional comedy. This was followed by an intense and exciting Friday morning session. The Symposium closing by Chair Bibi (“The Nightmare is Over”) included tributes to officers such as outgoing President Raniero Rocchi and new leader Jean Martinez, and warm invitations to future EPS meetings in Prague, Poland, Finland and Denmark.

Honoring the Fischer Centennial at the 27th European Peptide Symposium

A special session of the Symposium was dedicated to the 100-year anniversary of Emil Fischer's 1901 publication on the synthesis of a peptide. Seven lectures by distinguished colleagues highlighted various aspects of Peptide Chemistry as it has developed in the course of the last 100 years.

G. R. Marshall (USA) gave a historical account of the early days in Bruce Merrifield's laboratories, where the solid phase synthesis of peptides was born. R. Sheppard (UK) illustrated the story of the Boc- and Fmoc-protection in SPPS. V.T. Ivanov (Russia) discussed the possibility of studying peptides from various biological sources. R. Huber (Germany), in a very impressive lecture, showed how several molecular machines work in protein degradation. In K. Horst's (Germany) lecture the synthetic glycopeptides for the development of tumor-selective antigens were presented. S. Kent (USA) proposed new methods and new applications in the chemical synthesis of proteins. And finally, M. Goodman (USA) presented the advances in synthetic methodology, conformational studies and bioassays.

The session was attended by a very large crowd of participants, greatly interested in both the history and the perspectives of peptide chemistry.



Dr. Robert Huber



(From left) Prof. Benedetti and Elizabeth Schram presenting the Schram Award to Nicole Smith.

2002 Dr. Bert L. Schram Award

American Peptide Society member Nicole D. Smith of the University of California San Diego was presented with the 2002 Dr. Bert L. Schram Award at the 27th European Peptide Symposium on September 5th, 2002. Ms. Smith was one of two attendees to receive this award for the most outstanding poster presented at the Symposium by a young scientist, relevant to drug discovery. The Schram Award is co-sponsored by the Symposium and the ESCOM Science Foundation.

Impressions of the 27th European Peptide Symposium:

An Interview with Dr. Jean Rivier
Professor, Salk Institute for Biological
Studies, San Diego

Q: Dr. Rivier, please tell us in your own words your impressions of the Symposium.

A: I think that the European Peptide Symposium has really matured, as compared to 15, 20, 30 years ago. It has become very international, very broad in the subjects it addresses. This is not to be critical of what it was before. In its earlier stages, the presenters concentrated more on the technology than they did on concepts or hypotheses, which the Symposium now does. As you can imagine, the field of peptides now is part of our lives, everybody essentially knows about it—you can see them appear in all kinds of different contexts, and this was very well reflected by the diversity of abstracts and presentations and posters at the 27th European Peptide Symposium.

Q: Were there any particular topics or presentations that especially stood out for you?



(From left) Drs. Claudio Toniolo, Murray Goodman, and Luis Moroder, three-fourths of the editorial team responsible for the Houben-Weyl compendium Synthesis of Peptides and Peptidomimetics (Dr. Arthur Felix not shown)



Dr. Helmut Zahn, one of the great pioneers of peptide chemistry, at the 27th EPS

A: Yes, there was a session that I particularly cherished because it celebrated the 100th anniversary of the synthesis of the first peptide by Emil Fischer. It was particularly good to see the early innovators in the field being acknowledged. I think the Europeans have a longer tradition than the Americans to do so. Again, I'm not wanting to be critical of the Americans, who are very pragmatic and who tend to look at Fischer as more leaning towards the past. But I think that honoring the past gives some continuity and a sense of history—that is an area in which the Europeans are maybe a little more aware than the Americans.

I think also that all the presentations in all the fields were cutting-edge. I can definitely congratulate the Program Committee for an excellent program—they achieved a very sound exposition of where the field is going when they chose the different speakers. And what speaks very highly for the Symposium is the attendance—the number of people who attended, their status in science, their commitment to attending both

Interview with Dr. Jean Rivier

(continued from page 4)



(From left) Drs. Hisakazu Mihara, Murray Goodman, Michael Chorev (co-chair, 18th American Peptide Symposium, to be held in Boston in 2003), Richard Houghten, and Jean Rivier

Q: Could you say a little more about the “why” vs. the “how”?

A: The underlying theory is driving the research, as opposed to the opportunistic technological developments, in contrast to earlier years when we had more emphasis on the empirical, so that now everything is put in perspective. For example, in the mid-70s, a new technology appeared, namely high-performance liquid chromatography. Immediately, tens of hundreds of papers came out that described the application of that technique for particular areas of research. Now, no-one has any interest in using that technology just to show that it would work, because it's been demonstrated over and over and over again.

Q: So the technology now has taken its place as a means to an end.

A: Exactly. You put it very well.

Q: Anything else that you'd like to add?

A: The community of peptide chemists is very strong. It's a small community, after all—we all know each other, it's always a great pleasure when we meet somewhere. It's a lot of fun, really—it's not only very instructive, but there's also a lot of camaraderie.

the meeting and the poster exhibits. It was also encouraging for the field that there was a very good and diverse representation of scientific companies amongst the display booths.

I especially want to emphasize how most of the science presented at the meeting really asked the question “why,” and this has become more and more of a trend, rather than “how” – how are we going to do this, how are we going to do that—which was much less addressed than it was in the past. Though if there were people who attended the meeting with the hope of finding the solution to their specific synthesis problems, they could still be lucky like I was—there was an amino acid I'd wanted to synthesize for ten years, and there was a poster at the symposium that presented a very elegant synthesis of that particular amino acid, which I'm going to use.



Drs. Luis Moroder (l) and Gian-Franco Borin

American Peptide Society Newsletter

Published monthly by the American Peptide Society,
<http://www.ampepsoc.org>.

President: Dr. Murray Goodman
Treasurer: Dr. Richard Houghten
Membership Chair: Dr. Ben Dunn
Editor: Ellen T. Brenner (ellenbr@ispwest.com)

We are always seeking items for your society's newsletter—either scientific or personal, as long as they are relevant to the peptide field, the Society, and its members. Please email your news items, along with any photos or graphics, to the Editor, Ellen Brenner, at the above address. Items should be either Microsoft Word document attachments, or plain text included in the body of the email. Photos should preferably be in either JPEG or EPS format.

2002 Akabori Memorial Award

Dr. Yasutsugu Shimonishi, Professor Emeritus of Osaka University, will be the recipient of the 2002 Akabori Memorial Award. The award will be presented at the 39th Japanese Peptide Symposium, to be held October 16th through 18th in Kobe, Japan.

Dr. Shimonishi has had a long and distinguished career in which he has worked for the development of integrated methods for peptide synthesis and structural analysis, and applied those to many biologically important peptides and proteins. Dr. Shimonishi has also held many prominent posts in his field, including serving as President of the Japanese Peptide Society from 1998 through 2000.

The 39th Japanese Peptide Symposium is supported by The Chemical Society of Japan, The Pharmaceutical Society of Japan, and the Japan Society for Bioscience, Biotechnology, and Agrochemistry.

2003 Arthur C. Cope Scholar Award

Professor Jean Chmielewski of the Department of Chemistry, Purdue University, is the 2003 recipient of the Arthur C. Cope Scholar Award. The purpose of this award, which is administered through the American Chemical Society, is to recognize and encourage excellence in organic chemistry.

Professor Chmielewski's nomination was based in part on her pioneering research in the design of agents to modulate protein-protein interactions. Although the nature of protein-protein interactions is becoming better understood, rational approaches to inhibiting these interactions are still in their infancy. Professor Chmielewski's work seeks to answer fundamental questions concerning the chemistry and biology of disrupting protein-protein interactions, and, as such, has used a range of dimeric transcription factors and HIV enzymes as templates to address these questions.

Professor Chmielewski is also a pioneer in the use of molecular-based switches in areas as diverse as peptide self-replication, small molecule-protein interactions and cell specific drug delivery.