

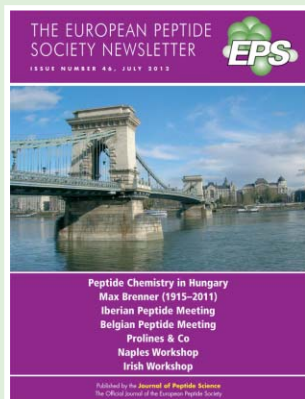
THE EUROPEAN PEPTIDE SOCIETY NEWSLETTER

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Peptide Chemistry in Hungary
Max Brenner (1915–2011)
Iberian Peptide Meeting
Belgian Peptide Meeting
Prolines & Co
Naples Workshop
Irish Workshop

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Cover photo: The Széchenyi Chain Bridge in Budapest

IN THIS ISSUE

A Message from the EPS President	2
Peptide Chemistry in Hungary	3
Iberian Peptide Meeting	7
Belgian Peptide Group Meeting	8
Prolines & Co.	11
Naples Workshop on Bioactive Peptides	13
Irish Peptide Workshop	15
Max Brenner (1915–2011)	17
Society News	21
Society Officers	26
Calendar	27

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SOCIETY NEWSLETTER

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A Message from the EPS President

Dear Reader,

It is my pleasure to welcome you by this message from the Executive Committee of the European Peptide Society.

After the establishment of the Society in 1989, the year of 2012 symbolizes the beginning of a new period in the life of our community. Building on the achievements of the past, it was a challenge to satisfy the requirements of our times for a scientific, non-profit oriented society, like EPS. During the last one and a half years, our aim as Executive Committee was to provide an appropriate working structure, new (i.e. adjusted) statutes for the EPS for the next future with the adaptations required by today's legal and fiscal regulations in the changing European landscape.

After careful analysis, fruitful and sometime heated discussions with experts from different constituent countries, the Executive Committee adopted a document suitable for the advancement of the Society and for the official registration of the Society. Now, I am proud to announce that the procedure was completed and the new statutes of the European Peptide Society were registered in Italy on 4 May 2012. In accord with this, the Society has a new bank account and it is in full operation.

During the 32nd European Peptide Symposium in Athens (2–7 September,

2012), the Council of EPS will discuss the draft of the bylaws of the Society, which will provide opportunity to further elaborate the activities of our Society (e.g. establishment of training courses, summer schools in collaboration with industries) and also to analyse critically the existing practice. With this message, I wish to invite all members of the Society, as well as our partners and all readers of the EPS Newsletter to be involved in this discussion and express the views by sending suggestions, remarks, notes to the member of the Council, i.e. his/her national representative, or directly to me.

Finally, I wish to thank all members of the Executive Committee and Professor Dirk Tourwé, secretary-elect, for their dedicated involvement and hard working during the last 15 months. At the end of the process we shall recognize that the transition has been completed and a new avenue for the development of an innovative, modern EPS is open with preserved treasures and proven values collected since the first European Peptide Symposium in Prague in 1958.

Professor Ferenc Hudecz
President of EPS

Budapest,
July 2012

Peptide Chemistry in Hungary

Hungarian peptide chemistry started already in 1937 with the discovery and synthesis of the anthrax polypeptide (poly- γ -D-glutamic acid, Ivánovics and Bruckner 1937). The Hungarian Peptide Chemistry Committee (HPCC) was created in the middle of the seventies by the support of Pr. G. Bruckner (Eötvös Lorand University, Budapest) and the Hungarian Academy of Sciences. Since that time the peptide researchers regularly organise annual meetings for demonstrating the newest results of their research. During the last 10 years these annual conferences were organized in Balatonszemes (Lake Balaton), sometimes with international audience. HPCC organized already two European Peptide Symposia in Budapest (1964 and 1998) and several smaller peptide conferences in Budapest and Szeged.

Peptide research is supported by the "Foundation for the Hungarian Peptide and Protein Research". The aim of the founders (S. Bajusz and K. Medzihradszky) was to support the research work of undergraduates and PhD students as well as to provide financial help for conference participation of young peptide researchers.

The Centre: Budapest

Several peptide groups are working in

Budapest, most of them within the scientific network of the Hungarian Academy of Sciences (HAS).

1, The Research Group of Peptide Chemistry of the HAS (leader: F. Hudecz) at the Eötvös Lorand University in Budapest works mainly on the immunochemistry of peptides and proteins and targeted tumour and tuberculosis therapy. *Immunochemistry of peptides and proteins:* Structure – function relationship of peptide epitopes in their native or modified (cyclized, D-amino acid substituted, conjugated) forms is investigated in order to produce suitable diagnostic or therapeutic tools in different diseases. The research group works with peptides derived from proteins of infectious agents (*Mycobacterium tuberculosis*, *Herpes simplex virus*), carcinoma associated mucin glycoproteins and proteins which are targets of autoantibodies in autoimmune diseases.

Targeted tumour therapy: Antitumor drug daunomycin was conjugated to cell penetrating oligoarginines, branched chain polypeptides or GnRH-III peptides; the toxicity and uptake properties of the conjugates were highly dependent on the acid sensitivity of the covalent bond between the partners.

Classical antituberculars presently used (isoniazid, INH; *p*-aminosalicylic acid, PAS) as well as novel candidates selected

by using *in silico* methodologies were conjugated to oligopeptide carriers and studied for mycobactericid effect. The selection of covalent attachment site for the introduction of the peptide chain dramatically influenced the antitubercular effect on *M. tuberculosis* H₃₇Rv and *M. kansasii* strains.

Synthetic procedures and analytical methodologies: Novel procedure was developed for the quantitative analysis of Cys content of synthetic oligopeptides. New procedures were invented for the preparation of „linker” structures based on tetraethylene glycol including biotin moiety.

A novel set of conjugates, in which cyclic RGD-peptide is attached to branched chain polypeptides via thioether linkage was prepared as coating material; this type of material would be a promising candidate for coating artificial cell substrates even for therapeutic application.

2, The Protein Modelling Group of the HAS

Housing at the Institute of Chemistry, Eötvös Lóránd University, Budapest (leader: A. Perczel) the work of the group focuses on the research of peptide and protein structure and conformation as well as foldamers. A variety of polypeptides, protein modules and fragments were synthesized or expressed in biological systems as well as studied in atomic



Participants of the 2009 Annual Meeting of HPCC

details (<http://www.chem.elte.hu/departments/protnmr/>).

a) Expressed and isotope labelled peptides: Bio-spectroscopy (e.g. NMR) of peptides and proteins can provide an insight to structure and dynamics of macromolecules at an atomic level of details. Design and characterization of peptides presenting of either a single time-average 3D structure (e.g. a Trp-cage miniprotein) or those of promiscuous

structural preferences (e.g. IUPs, IDPs) is a challenge. The goal is to map the key residue-to-residue contacts and conformational features as well as that of the molecular network of the overall macromolecular system by NMR, CD, X-ray etc., to decipher their biological role. Recently the group proposed the term Dynamics-Structure-Activity Relationships (DSAR) on a handful of evidence to used instead of SAR to better describe

correlation between bioactivity and structural characteristics of peptides and proteins.

b) Unstructured polypeptides of specific biological role: Structure characterization of intrinsically disordered peptides and proteins (IDPs) is more than a challenge but not impossible. Using NMR chemical shift mapping and relaxation data residue specific information could be obtained as shown for the functional segments of

calpastatin an inhibitor of calpain, for ribosomal proteins IL8, for a plant dehydrin ERD14 etc. Even though shorter or longer fragments of proteins could present a highly dynamic nature, they still hold specific bioactivity, as deciphered for several systems.

c) Design and new foldamers: from in silico to in vitro: The increasing computing efficacy and capacity of today's computers together with the understanding of the principles of peptide and protein structure allowed to conduct relevant in silico studies (MD, ab initio, QM etc. calculations) on smaller peptides up to large enzymatic complexes even at the quantum chemical level of theory. Beside geometries acquired from multidimensional conformational analysis

(MDCA) or conformational searches these methods are used to study structure dependent pK_a data, vibrational properties, NMR chemical shifts, coupling constants or ^{13}C Hyperfine-Shifts. Structures of peptides built up from β -amino acid residues are also studied by theoretical and experimental methods. 3, *The Pathobiochemistry Research Group of the HAS* (leaders: J. Mandl, G. Kéri) is working in tight connection with the Semmelweis Medical University. The research group has developed an original tumorselective somatostatin analogue, TT-232, which successfully passed clinical phase II/a trial. The group has designed novel follow up compounds identifying the most important domains essential for biological activity. Some of

the new compounds inhibit cell proliferation and neurogenic and non-neurogenic inflammation even more efficiently than TT232. Utilization of the invention would result in a new non-steroid type anti-inflammatory drug. More than 80 diseases are connected to insufficient angiogenesis. The research group successfully designed and developed two small molecular weight compounds of different type which are able to induce angiogenesis both in vitro and in vivo. The lead compound caused a 10-times enhancement in the generation of veins compared to the control. The group has participated in the development of novel peptidomimetic kinase inhibitors for various pathologically relevant targets.



Participants of the 2010 Annual Meeting in Lake Balaton

The Szeged groups

After the anthrax-polypeptide research (between 1936 and 1951) the peptide chemistry was restarted at the University of Szeged in 1965. The main centre of the peptide research is the *Peptide Laboratory at the Department of Medical Chemistry* (leader: G. Tóth), focusing on the post-translationally modified amino acids.

The task of the group is the development of new methods for the chemical synthesis of various peptides containing post-translationally modified amino acid residues. Applying synthetic phosphopeptide derivatives, the group described an ERK docking site on human FcγRIIb, which maybe responsible for its serine phosphorylation and have a role in fine tuning of the B cell regulatory function of FcγRIIb. The researchers found octanoyl-Arg8 to be an optimal carrier for the delivery of phosphopeptides to the cells. The research group is working out new strategies for the synthesis of glycopeptides and fluorescent labelled peptides.

New methods and building blocks were introduced for the preparation of conformationally constrained peptides. Although the short peptides are usually highly flexible molecules, the restriction of the conformational freedom can lead to

specific and highly active natural peptidomimetic molecules (e.g. several antibiotics, alkaloids, etc.).

In vitro formation of disulphide (-S-S-) bonds in a controlled fashion remained a significant challenge of peptide research. Difficulties are involved in the regio-selective formation of multiple disulphide bonds. A large number of multiple disulphide bond containing biologically active peptides are known. The research group successfully synthesized peptide toxins (iberiotoxin, charybdotoxin, amuroctoxin) and endothelins. Their structural proof is also a significant challenge. The group is working on synthetic strategies for the rational preparation of multiple disulphide bond containing peptides and methods for the elucidation of the disulphide pattern.

The *Research Group of Supramolecular and Nanostructured Materials of HAS* (former leader: B. Penke, present leader I. Dékány) operates within the Medical Chemistry Department of the University of Szeged. The main field of the group is the research of amyloidogenic peptides and their role in the pathogenesis of neurodegenerative disorders (Alzheimer's, Parkinson's, Huntington's disease, prion diseases). Novel methods were introduced for preparation of toxic β-amyloid peptide species as well as measuring their

toxicity in brain slices. New neuro-protective peptides and peptidomimetics were designed and synthesized and their protective activity was demonstrated also by in vivo experiments.

The Biological Research Centre of the HAS gives place and support to chemistry based research in the *Chemical Biology Research Group* (leader: C. Tömböly). This work is focused on the understanding of how proteins work and how the structural features of receptor ligands influence protein – small molecule interacting systems. These include the opioid system, the prion protein and amyloid β-peptide systems. One major area of the research activity is to develop new methods for the preparation of special polypeptides and proteins of biomedical interest. The group has intensive program in small molecule receptor ligand development, radioactive labeling, molecule spectroscopy and molecular modeling. Beyond the chemical studies, theoretical chemical techniques support the in-depth analysis of structure – activity/function relationships.

Contributed by Botond Penke

CONFERENCE REPORT

Iberian Peptide Meeting – EPI XIII

Alicante, Spain, 1–3 February 2012

The XIII Iberian Peptide Meeting, EPIXIII, was held in Alicante, Spain, from the 1st to the 3rd of February, 2012. The conference, organized by the Institute of Molecular and Cellular Biology from the University Miguel Hernández, congregated the most important Iberian specialists in peptide science and its applications. This year the meeting has an attendance of 95 peptide scientists. The scientific program, similarly to past meetings, was held in two days, with intensive sessions during morning and afternoon.

One of the main goals of the meeting is the encouragement of the participation of younger researchers through the presentation of oral communications and subsequent discussion. Following this objective, a total of twenty-one short oral communications of 15 min were presented. As a change from previous editions, we organized three plenary lectures by leaders in asymmetric catalysis, membrane-active peptides and pepducins in signaling and therapeutics, Prof. Helma Wennemers (University of Basel), Prof. Anne Ulrich (Karlsruher Institute of Technology) and Prof. Athan Kuliopulos (Tufts Medical Center, Boston). Apart from that, there was also the opportunity to present twelve senior communications given by Portuguese and Spanish researchers, which in combination made



Participants of EPI XII during social hour

this meeting one of the most significant ones. To name a few, some of the various aspects which were addressed at the conference were the application of NMR to peptides, bioactive and bioinorganic peptides, brain-penetrating peptides, in-vivo screening, cosmeceutical peptides, combinatorial synthesis, functional biomaterials, molecular dynamics, peptide chemistry, peptide prodrugs, peptide-membrane interactions, peptide nanomaterials, peptidomimetics, therapeutic peptides, and much more. We believe this

interesting program has paved the way for excellence and recognition of future events.

The meeting was supported by some companies, non-profit and government institutions, as well as the European Peptide Society. We are the most grateful to all of them.

Contributed by José Villalain

CONFERENCE REPORT

1st Belgian Peptide Group Meeting

Brussels, 9–10 February 2012

The first Belgian Peptide Group Meeting (<http://www.bpgm.be>) was held in Brussels on February 9 and 10, 2012 and was hosted by Peptisyntha on the Solvay campus. It was organized by Dr. Mimoun Ayoub (Peptisyntha) and Prof. D. Tourwé and Prof. S. Ballet (Vrije Universiteit Brussel).

Belgium did not have a peptide meeting since the successful series of meetings on Peptide- and Protein Mimetics that were organized by Prof. G. Van Binst, stopped in 2001. Therefore this meeting was a good opportunity for the Belgian peptide groups to meet and present their research. A majority of 60% of the presentations were made by Belgian peptide scientists. The aspiration of the organisers was however to also have a significant international component. The remaining 40% of the presentations came from international speakers, which nicely reflects the composition of the audience. About 180 participants were registered, with a proportion of 65% Belgian and 35% international delegates. The larger part of the non-Belgian delegates came from neighbouring countries France (13), Germany (7), the Netherlands (6), but also Switzerland (5), US (4), UK (3), Portugal (2) and even Japan (2) and India (2) were represented. The delegates from academic institutions and from industry were about equal in numbers. In



Dr. Mimoun Ayoub of Peptisyntha giving the introduction, and showing a graph of the country of origin of the participants

the program one third of the presentations came from industrial groups.

The four plenary lectures were given by invited speakers: Philippe Karoyan (Paris): *"The importance of flexibility in connecting structure to function : lessons from SAR studies"*, K. Jensen (Copenhagen): *"Novel analogs of PYY3-36 for potential treatment of obesity"*; R. Liskamp (Utrecht): *"Peptidosulfonyl fluorides as new protease inhibitors"* and J.-A. Fehrentz (Montpellier): *"Ghrelin receptor ligands: From peptide to peptidomimetic, design and synthesis to clinical studies"*. There were 19 additional communications, organized in sessions Discovery, Design and Development, Biology and

Pharmacology, and Synthesis, Structure and Characterization, which resulted in a very busy program. Industrial contributions treated peptide hydrogels for cell culture (L. Jeannin, Peptisyntha), controlled release of peptides using gels (G. Gaudriault, Medincell), process technology for effective peptide synthesis (K. Decroos, Peptisyntha), new polymer supports for peptide synthesis (D. Wellings, Spheritech and W. Rapp, Rapp Polymere), advancing ShK peptide into the clinic for treatment of multiple sclerosis (M. Pennington, Peptides Int.), biological activity of VEGF-derived peptides in peripheral and central nervous system (A. Verheyen, Janssen Pharmaceutica) and



Prof. D. Tourwé giving the closing remarks and advertising the 32nd EPS in Athens

novel technologies to enhance peptide therapeutic properties by PEGylation (Y. Cong, PolyTherics).

Academic contributions covered a wide area of peptide research. S. Ballet (Univ. Brussel) presented the use of constrained amino acids for the design of opioid-NK1 bifunctional ligands. G. Menschaert (Univ. Ghent) discussed a bio-informatics approach to discover micro-peptides with

important functions, whereas P. Soumillion (Univ. Louvain) described the biosynthesis of libraries of cyclic peptides in *E. coli*. The modeling of the structure of a cell-penetration peptide and of its interaction with siRNA was presented by A. Thomas (INSERM, Toulouse), and A. Madder (Univ. Ghent) described approaches to design mini proteins based on a cholic acid scaffold. In the afternoon

session, I. Smolders (Univ. Brussels) reported that inactivation of the ghrelin receptor suppresses limbic seizures in rodents; J.W.M. Creemers (Univ. Leuven) discussed the role of PREPL, a putative oligopeptidase, and A.-M. Lambeir (Univ. Antwerp) gave an overview of peptidomic approaches for the identification of endogenous substrates for DPP IV and PREP, followed by P. Van der Veken (Univ.



A view of the conference room

Antwerp) who described a novel class of inhibitors for prolyloligopeptidases. A. Nikolaou (Univ. Brussels) described the development and properties of a novel selective tritiated Ang IV analog and M. Ongena (Univ. Liège) discussed the molecular mechanisms underlying the biocontrol functions of cyclic lipopeptides. This topic was further discussed on Friday by M. Deleu and N. Nasir (Univ. Liège) and an NMR study to demonstrate the self-assembly of a lipodepsipeptide was

presented by J. Martins (Univ. Ghent). Finally, V. Pourcelle (Univ. Louvain) described the development of a novel polymer-RGD peptidomimetic conjugate for targeted drug delivery.

A questionnaire filled out by the participants revealed a major satisfaction about the program and the balance between academic and industrial presentations. Some participants preferred a less tight program schedule, but more time for networking. The wish was expressed for

the organization of a next Belgian meeting, which the present organizers, given the success of the first edition, have decided to do.

Contributed by Dirk Tourwé

MINI-SYMPOSIUM

Prolines & Co.

Montpellier, France, 2–3 April 2012

A mini-symposium focused on proline and called «Prolines & Co.» was organized on April 2–3, 2012, in Montpellier, South of France.

To set up this symposium, scientists from the “Institut des Biomolécules Max Mousseron” (IBMM) directed by Professor Jean Martinez, including Nicolas Floquet, Florine Cavelier, Isabelle Parrot, Sonia Cantel, have made efforts to prepare a scientific program dedicated to generate fruitful discussions on the exciting topic of prolines and derivatives, from synthesis to biological activities. The administrative part of the meeting was taken over by Sylvie Corneille, general secretary of the IBMM. This symposium was organized under the auspices of the Groupe Français



des Peptides & Protéines (GFPP, <http://gfpp.free.fr>), which goal is also to promote scientific exchanges and collaborations, both at the national and international levels.

Four invited speakers have accepted to contribute to the program, thus assuring

the success of this event: Brigida Bochicchio, University of Basilicata, Potenza, Italy, “*Polyproline II conformation in elastomeric proteins*”; Jean-Christophe Gelly, University Denis Diderot, Paris, France, “*Type II Polyproline helix assignment: analysis and sequence*



Group picture of participants of “Prolines and Co.” mini-symposium

– *structure relationship*"; Ernest Giralt, Institute for Research in Biomedicine, Barcelona, Spain, "*Prolyl oligopeptidase NMR tales. A journey towards discovery of new POP inhibitors*"; Helma Wennemers, Laboratory of Organic Chemistry, ETH Zürich, Switzerland, "*From azidoproline to functionalizable molecular scaffolds and collagen*". Sixteen short oral communications as well as posters presenting different aspects dealing with proline, from organic and peptide chemistry to structural considerations, also stimulated quite a lot of discussions.

The financial support of the Universities Montpellier 1 and Montpellier 2, CNRS, Pôle Chimie Balard and of the European Peptide Society was helpful. The participation of some of our industrial partners was essential to this event. Thanks to all contributors.

Finally, the New Journal of Chemistry offered to select some oral/poster communications for an accelerated process of publication in their journal and to consider journal cover propositions to elaborate a dedicated issue.

Contributed by Florine Cavalier

CONFERENCE REPORT

13th Naples Workshop on Bioactive Peptides Naples, 7–10 June 2012

The 13th Naples Workshop on Bioactive Peptides was held at the Congress Center of the University of Naples 'Federico II' on June 7–10, 2012. The workshop had an extraordinary attendance of over 150 peptide scientists of different countries from all over the world. The meeting was organized by a joint effort of the Inter-University Research Center on Bioactive Peptides (CIRPEB) of the University of Naples 'Federico II', the Institute of Biostructures and Bioimages, and the Institute of Crystallography of the Italian

C.N.R. The workshop was held under the auspices of the European Peptide Society, the Regional Ministry for Universities and Scientific Research of Campania, and the National Research Council of Italy. The theme of the workshop "Conformation Activity in Peptides: Relationships and Interactions" was covered by several lectures, key notes, oral and poster presentations. The plenary lecture of Prof. M. Chorev was given on the first day of the symposium. The afternoon of the second day hosted the young investigator's session dedicated to 'Murray Goodman',



Symposium Chairman Giancarlo Morelli



Group of participants at the symposium venue

in which seven oral communications were presented by young scientists competing for a prize represented by five volumes of "Houben-Weyl, Methods of Organic Chemistry: Peptide Synthesis", kindly offered by Prof. Claudio Toniolo. The session was an important stage for rather talented young scientists, being very much appreciated by the audience for the content of the lectures and the way they were presented. The second day program was completed by two additional sessions dedicated to the topic: "The structure of

peptides and their interaction with biomolecules". The third and fourth days were dedicated to the topics: "Peptide drug design", "Peptides for diagnostic and therapeutic applications", "Synthesis of peptides, proteins and related analogs", "Peptides in nanotechnology and nanomedicine".

A total of 6 invited plenary lectures, 10 invited key notes and 14 oral presentations were given in the 4 days of the workshop. Furthermore, a rather substantial number of poster presentations (75) were also enriching the program, covering the various aspects of peptides as therapeutics, diagnostics, vaccines, nanomedicine and nanotechnologies.

The scientific content of the invited lectures, short oral, and poster presentations certainly reflected the state of the art in several specific aspects of the topic of the workshop; the investigations presented were indeed representative examples of emerging subjects, which highlighted the field of continuously increasing biologically important and 'man-made' peptide systems. One common feature, which ideally connected the different subjects covered, was the 'molecular approach' used by the various authors in tackling the problem of understanding the structure-activity relationships of bioactive peptides.

The Naples meeting has been, once

again, a highly successful forum for the exchange of ideas on hot subjects and trends in peptide chemistry and an important and decisive stimulus for future work in the area. The pleasant weather of Naples, offered to participants, beside science, the occasion of enjoying the city with its museums, monuments, and natural beauty.

Contributed by Giancarlo Morelli

CONFERENCE REPORT

2nd Irish Peptide Workshop

Coleraine, 14–15 June 2012

The 2nd Irish Peptide Workshop was held at the University of Ulster in Coleraine, Northern Ireland, on 14th and 15th June 2012. About 55 delegates took part in the meeting which was a follow up to the inaugural workshop which took place at the Royal College of Surgeons (RCSI, Dublin) in May 2010. The organising committee was led by Professor Finbarr O'Harte from the School of Biomedical Sciences

(Ulster) and assisted by Dr Victor Gault (Ulster), Dr Chandralal Hewage (University College Dublin) and Dr Marc Devocelle (RCSI, Dublin).

During the two-day workshop the scientific sessions commenced with experienced researchers from all over Ireland followed by younger scientists (PhD students and postdoctoral researchers) also presenting their work. The workshop was officially opened by

Professor Chris Shaw (Queen's University Belfast) who gave a stimulating lecture on 'The myriad bradykinins of amphibian skin'. The keynote lecture was delivered by the President of the European Peptide Society, Professor Ferenc Hudecz, whose lecture was entitled 'Peptide bioconjugates for diagnosis and or therapy'. Other topics covered during the workshop included plenary lectures on: incretin mimetics and neuroprotection in models



Professor Finbarr O'Harte, Dr Chandralal Hewage, Professor Ferenc Hudecz (President of EPS), Dr Marc Devocelle and Dr Victor Gault

of Alzheimer's disease; casein as a source of bioactive peptides; actions of xenin-25 on glycaemic control in diabetes; as well as discovery and actions of antimicrobial peptides on immune function. These lectures were further complemented by peptide industry presentations on assay technologies and peptide synthesis.

The workshop also provided an opportunity for early-career scientists to showcase and present their research. Indeed the standard of these presentations were extremely high with awards being presented to the top oral and poster presentations. The best oral presentation was awarded to Srividya Vasu for her talk entitled 'Effects of chronic GLP-1 delivery by cell therapy in normoglycaemic and severely diabetic streptozotocin treated mice' and best poster prize went to Opeolu Ojo for his work entitled 'Evaluation of the *in vitro* and acute *in vivo* insulinotropic and glucose-lowering effects of Caerulin Precursor Fragment (CPF-AM1) isolated from the skin secretion of the clawed frog, *Xenopus laevis*'.

In addition to the scientific programme, the workshop dinner was held at the nearby Portstewart Golf Club on the scenic North coast which provided an excellent ambience for a great social evening. Overall the workshop received excellent feedback from the participants

and in particular for the very high quality presentations. Of course the workshop would not have been possible without the generous support of a number of sponsors. We would like to thank the European Peptide Society, International Regulatory Peptide Society, Almac Group Ltd., Premier Scientific Ltd., BMG LabTech, Thermo Scientific, Meso Scale Discovery and the University of Ulster.

*Contributed by Finbarr O'Harte
and Victor Gault*

In Memoriam

Max Brenner (1915–2011)

Max Brenner was one of the first peptide chemists in Switzerland and he was also one of the co-founders – together with Josef Rudinger, Erich Wünsch, Theodor Wieland, Geoffrey Young and others – of the European Peptide Symposia. Generations of peptide scientists have enjoyed to meet Max Brenner on these occasions – over the long period of 46 years during which he attended the first 28 symposia – and to witness his intelligent and always witty discussions and contributions. Following the first symposium held in Prague in 1958 and the second in Munich in 1959, he organized the 3rd European Peptide Symposium in Basel in 1960. Incidentally, the scientific chair of the symposium in Basel was taken by Leonidas Zervas who received the honorary doctorate (Dr.h.c.) of the University of Basel on this occasion, in particular for the invention of the carbobenzoxy (“Z”) protecting group published with Max Bergmann in Dresden in 1932. The last symposium which Max Brenner attended to join the peptide community and to meet his old friends was number 28 held in Prague in 2004.



Max Brenner with Erich Wünsch (top left) and Josef Rudinger (bottom right) during the first peptide symposium in Prague in 1958. They were the organizers of the 1st (J.R.), 2nd (E.W.) and 3rd (M.B.) European Peptide Symposium.

Max Carl Brenner was born on the 9th January 1915, the same day when Mohandas Gandhi arrived in India and when Europe was at war. His father was a dentist in Chur which is situated in the alpine region of the Grisons. The family originated from Basel: a great-uncle was an important politician of the liberal party there who also became president of the Swiss government at the turn of the century. Truly liberal thinking had coined Max Brenner right from his youth. After spending the grammar school in Winterthur (near Zurich) he studied chemistry at the ETH in Zurich, completing the studies with the doctorate in 1940. The company J.R. Geigy AG in Basel offered him to become engaged in the field of protein chemistry and – in order to obtain first-hand expertise – to join Max Bergmann's group at the Rockefeller Institute for Medical Research for a year. In 1940 Max and his wife Margrit undertook the difficult trip to New York; Europe was at war again and passing the front lines was an adventurous task, also on the way back to Basel in 1941. In the subsequent years, the three children Eva, Ruth and Hans-Rudolf were born.

In 1948 Max Brenner became attracted by an offer of the University of Basel to build up a laboratory for analytical chemistry. He realized that at university



Max Brenner in his beloved mountain home "Schwarzwasserstolz" in the Bernese Schwarzenburgerland in spring 2005 (shortly after his 90th birthday).

he had more freedom to pursue his interests in the chemistry and analytics of peptides and proteins, the fascinating new world for biological chemists after world war II. He became *Privatdozent* in 1951 and professor in 1954, a post which he held for almost three decades. As emeritus professor he continued his research at university for many years; at the same time his first son Hans-Rudolf had already been appointed professor of physiology at this university.

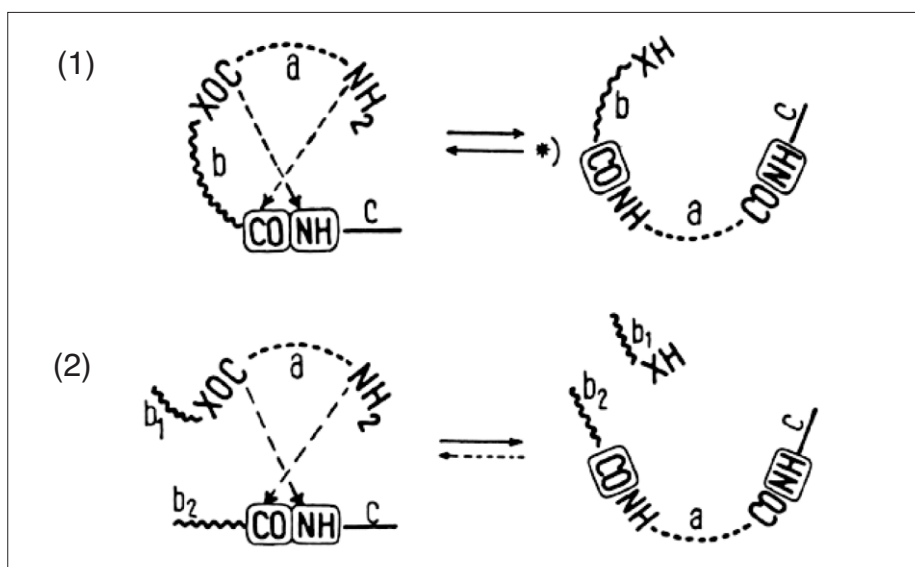
Many generations of doctoral students were shaped in the "Brennererei", the nick-

name for Max's laboratory. Apart from a solid formation in peptide chemistry and analytics, the students were taught the essentials of any scientific approach, namely to focus on the principles, to understand the logics and methodologies behind, or – briefly – to know "the rules of the game". Max Brenner was not only an advocate of fundamental education, he was also a savourer, a connoisseur of the art of living: Hard laboratory work was interrupted with memorable parties in which, e.g., every novice in the lab – females included – had to smoke a cigar.

All these activities formed strong ties within the Brenner group that lasted on life-long.

With his second wife Ursula, his step-son Jan and his youngest son Beat, Max Brenner entered a new phase in his life in the 1960s. For the next four and a half decades, he kept a vivid interest in the young generation, maintained a wide social network but also loved to spend time alone in his beloved mountain home high up on the hills of the Bernese Schwarzenburgerland where in the last years of his life he was working on a manuscript for a chemistry book for young people. For years, Max and Ursula were regular participants of peptide meetings of the Max-Bergmann-Kreis and the European Peptide Society.

Max Brenner's contributions to the field of peptide science are manifold. To mention just three examples: With his studies on the aminoacyl insertion reaction he addressed a piece of research that has never lost its topicality (M. Brenner; *J. Cell. Comp. Physiol.* 1958; 54, S1: 221–230). The same is true for his research on enzymatic protein synthesis for which very early on he proposed the use of activated α -amino acid esters (M. Brenner *et al.*; *Helv. Chim. Acta* 1950; 33: 568–591). In later years of his career, Max Brenner perfected the counter-current distribution/liquid extrac-



M. Brenner; *J. Cell. Comp. Physiol.* 1958; 54, S1: 221–230 ,
(1) General intramolecular aminoacyl insertion reaction, (2) intermolecular aminoacyl insertion reaction.

tion method for large-scale peptide purification by designing a machine that had a much higher efficiency and throughput than anything built to date.

Max Brenner's friends organized peptide minisymposia in his honour at the occasion of his 80th, 90th and 95th birthday in all of which he impressed the audience with thoughtful speeches. He died unexpectedly on the 17th February 2011, just a few weeks after his 96th birthday. Throughout his life, Max Brenner had the imperturbable trust into the good fate of human life with all its beauties which he summarized in a

phrase that he left behind together with his last manuscript: "Sterblichkeit ist der kleine Preis für das Privileg gelebt zu haben" (transience of human life is the small price for the privilege to have had a life). We all will remember Max as a scientific pioneer in peptide chemistry, an independent liberal thinker and a charming and always good-humoured friend.

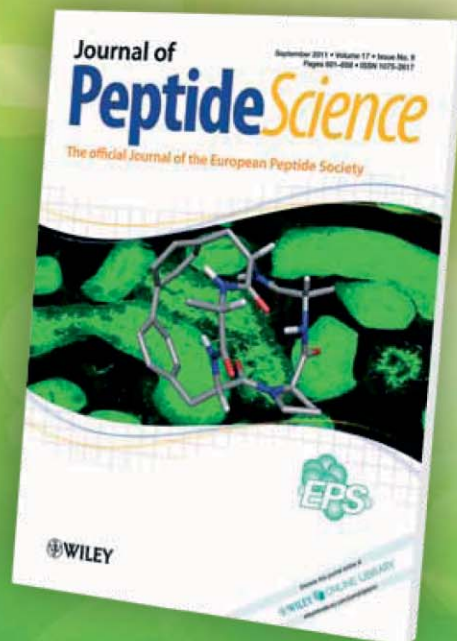
Contributed by Alex N. Eberle
Basel, July 2012



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- Reductions on registration fees at EPS Symposia
- Every other year 6 months free online access to **Journal of Peptide Science**
- Network with scientists with similar interests
- Access to travel bursaries
- Access to financial support when organising peptide related symposia
- Access two newsletters per year informing on EPS activities
- Access to the EPS Archives: previous Symposia proceedings, mémoires and photos
- Each European country can give input to the Society through their elected country representative
- Source information on jobs, awards and forthcoming conferences



Society News

J. Rudinger and L. Zervas Awards

32 EPS, Athens, September 2012

According to the results of EPS Council voting for 2012, the laureates are:

- David J. Craik for the Rudinger Award
- Knud J. Jensen for the Zervas Award



David Craik is a Professor of Biomolecular Structure at the Institute for Molecular Bioscience, University of Queensland. He obtained his PhD in organic chemistry from La Trobe University in Melbourne, Australia (1981) and undertook post-doctoral studies at Florida State and Syracuse Universities before taking up an appointment at the

Victorian College of Pharmacy in 1983. His research interests focus on the application of NMR in drug design, and on toxins, including conotoxins. He has a particular focus on structural studies of disulfide-rich proteins, and on the discovery and applications of circular proteins and novel protein topologies. He has trained more than 50 PhD students and is the author of >450 scientific publications. His scientific contributions have been recognized by several awards, including the American Chemical Society's Ralph F Hirschmann Award in Peptide Chemistry (2011).



Knud J. Jensen holds degrees in Organic Chemistry and Philosophy from the University of Copenhagen. He obtained a Ph. D. degree in synthetic bioorganic chemistry with professor Morten Meldal in 1992, after which he did postdoctoral research with professor George Barany, University of Minnesota. He became

assistant professor at the Technical University of Denmark in '97 and associate professor at KVL in Copenhagen, which in 2007 became part of the University of Copenhagen. The same year he was promoted to full professor in nanobioscience. He is now a full professor at the Department of Chemistry, University of Copenhagen. His research covers a broad range of topics at the interface between synthetic chemistry, biology, biophysics, medicinal chemistry, and nanobioscience. He is the co-author of ~100 peer-reviewed publications, as well as numerous book chapters and proceedings. In 2010, he was the co-chair, together with Thomas Hoeg-Jensen and Morten Meldal, of the 31st European Peptide Symposium, which was held in Copenhagen.

Executive Committee Meeting

University of Patras, Greece

22 October 2011

- The minutes of the Executive Committee meeting held in Florence, 12/13 May 2011, were accepted.
- The webmaster (G. Pairas) reported on the planned modifications of the website regarding the Archive section (older proceedings, memoirs & photos and issues involving copyrighted material agreements) and its future implementation (with the contribution from Wiley's technical dept.). Also, major modifications in the home page structure were decided as well as the incorporation of National Representatives Contact List (after permissions acquisition by the Secretary).

- **EPS Symposia**

Progress report on the 32nd EPS in Greece (2012)

George Kokotos presented the progress of the organization of the 32nd European Peptide Symposium. More specifically, he presented:

- a) The Logo of the symposium (head of Minerva, symbol of Athens and symbol of the University of Athens, combined with the structure of carbobenzoxy chloride).
- b) The Organizing and the Scientific Committees. The Committees were modified after the suggestions of the members of the Executive Committee.
- c) Names of the invited speakers.
- d) Preliminary program and timetable (Opening on September 2, early in the evening, closing in the afternoon of September 7).
- e) Topics of the symposium and website.
- f) Venue of the symposium (Megaron Convention Center in Athens).
- g) Accommodation will be provided in central hotels in Athens of various categories.
- h) Registration fees will be similar to those of the two previous symposia in Copenhagen and Helsinki.
- i) Deadline for abstract submission: end of March. Deadline for early registration: middle of May.
- j) Save the date brochure was sent to the Australian Peptide Symposium.

33rd EPS in Bulgaria (2014)

After the decision taken in Copenhagen the representative

of Bulgaria, Prof. L. Vezekov and Prof. I. Stoineva together with the Bulgarian Peptide Society made preliminary arrangements about the organization of the 33rd EPS in 2014 as reported by Ferenc Hudecz after his short visit of the 6th Bulgarian Peptide Symposium. The Executive Committee agreed to propose Prof. G. Kokotos the early invitation of Bulgarian representatives to join the Programme Committee of the 32nd EPS and provide intense collaboration with the Chairperson of the 33rd EPS for efficient transfer of experience.

- *New Statutes of the EPS and registration of the EPS as non-profit organization*

Following the EC meeting in Florence, where a first version of the new statutes of the EPS prepared by Dr. Gori (May 2011) was used to open a temporary bank account, the mandate to A.M. Papini was to further develop the statutes based on Italian law but as compatible as possible with the present governance of the EPS. In parallel, A.N. Eberle was asked to inquire about the possibility of registration of the EPS in Switzerland and to ask D. Tourwé to do the same for a possible registration in Belgium.

Both, A.N.E. and D.T. had a solution for a possible registration in Switzerland or Belgium. However, if the bank account should be opened in the country of residence of the treasurer, these solutions would be less attractive because a co-registration in Italy would be required, thus complicating the procedure. Therefore and as the text of the new version of the statutes produced by Dr. Gori in the meantime and presented to the EC by A.M.P. took up many of the reservations of the EC, it was decided to pursue the option of registration in Italy and to encourage A.M.P. to work with Dr. Gori towards a further improved version. (Between the EC meeting in Patras and the end of the year, an acceptable Italian version was produced so that the formal registration of the EPS in Italy could be initiated in the first quarter of 2012.)

- The Treasurer reported that the situation concerning the bank account has not changed since the EC meeting in Florence: as long as the EPS has not been registered in Italy, a transfer of the money will not be possible, because

money is now in a bank account at the personal name of the previous Treasurer. Fiscal laws both in Italy and in Europe could make problems. A.M. Papini proposes that in cooperation with Studio Gori and Notary Biagioli she will organize registration of the European Peptide Society in Italy with a regular Statutes following the indication of the Executive Committee. This is condition sine qua non for opening a regular Bank account on the name of a no-profit Society and receiving the EPS money from the previous treasurer without encountering any fiscal problem. A legal translation of the registration deed and of the Statutes could also be organized. A.M. Papini informs that Studio Gori has been trying to contact the previous Audit Euroconsulting to obtain the final report of the Audit. Studio Gori will continue in this sense and will inform the EC. Moreover as the EPS is not officially registered, Studio Gori will have to revise the money movements of the previous three years because the bank account is at the name of a physical person and a transfer of the money into the new bank account once the EPS registered could not encounter any fiscal problems.

- The Scientific Affairs Officer reported that the EC decided to transfer the money as soon as the bank account will have been opened and the assets of the EPS available for payments.

The EC agreed to support the following meetings planned for 2012:

- Symposium “prolines and company”, April 2012 (Organiser: Florine Cavelier).
- 1st Belgian peptide group Meeting, 9–10 February 2012, (Organiser: Dirk Tourwe).
- 13th Naples Workshop on Bioactive Peptides, June 2012, (Organiser: Giancarlo Morelli).
- Irish peptide meeting, 14–15 June 2012, (Organiser: Chandralal Hewage).
- Nanopeptide 2012: Peptides as Nanomaterials and Biomaterials, 12–14 November 2012 (Organiser: Stephen Hoare).

Concerning the Rudinger and Zervas awards for the 32nd EPS, the Scientific Advisory Committee will make a first selection of proposed candidates and present the list to the EC. Further details at the next EC meeting.

- The Communications Officer reported on the contents planning of the next issue (no 45) of the EPS Newsletter, including a message from the President regarding the Society's pending statutes alterations, news on 32nd EPS organization etc., in addition to the standard articles of each issue.
- The Secretary has undertaken a lot of efforts (in collaboration with G. Mild) to obtain a complete list of registered EPS members. The fact that EPS has free membership reduces the motivation of members to communicate changes in their “coordinates” (including e-mail addresses). With the help of Council members and after several calls to all members to go through a re-registration process via the EPS website has produced some 500-600 members by autumn 2011. To obtain a list for use by the secretary, a complicated and very time-consuming process of export from the Wiley list into an Excel format has to be done. The EC takes notice of this situation and encourages Gabi Mild to contact James Weeks of Wiley.

● *Journal of Peptide Science*

Ferenc Hudecz reports about the intention of the Editor-in-Chief of the Journal of Peptide Science, Luis Moroder, to gradually step down from this function. For the year 2012 he had secured to collaboration of Annette Beck-Sickinger as deputy editor-in-chief, with the intention to replace Luis Moroder about a year later. The EC accepted this procedure. (Later in the year, it became clear that Annette Beck-Sickinger will not take this function owing to personal reasons.)

- The EC welcomes the offer by Solange Lavielle to host the next EC meeting in Paris. Preferably, a suitable date will be envisaged in May 2012. Details will follow.
- The President thanked Paul Cordopatis for the kind invitation, hospitality and organization of the Executive Committee meeting in Patras.

*Condensed by the Editor from the Minutes
provided by the Secretary*

32nd EPS – Latest News



With more than 550 submitted abstracts and more than 600 already registered participants coming from more than 40 different countries, the 32nd European Peptide Symposium assures an exciting scientific program. The Symposium will take place at the Megaron Conference Center located in one of the nicest districts of Athens. In close collaboration with the International Scientific Committee, the Organizing Committee is composing a high quality scientific event with the

aim to present and highlight the most important new results in peptide science. Around 90 contributions have been selected for oral presentation, and the program will be announced by the end of June.

The Local Organizing Committee promises to offer the famous Greek hospitality to all participants. The social events will be announced later on. Visit Athens and enjoy science, social events, unique archeological sites, walks around Acropolis and the wonderful Greek weather.

Plenary and Invited Lectures

“Exploring the Protein Universe” Prof. Kurt Wuthrich (ETH Zurich, Switzerland and The Scripps Research Institute, USA) Nobel laureate 2002

“Tumor targeting with peptides in four decades: from initial concepts to an array of highly sophisticated methods” Prof. Alex N. Eberle (University of Basel, Switzerland)

“Defying Difficult Diseases: Design and Synthesis of Aspartic Protease Inhibitors and Click Peptides Based on the O-Acyl Isopeptide Method” Prof. Yoshiaki Kiso (Nagahama Institute of Bio-Science and Technology, Japan)

“De Novo Design of Artificial Peptides that Specifically Interact with HIV-1 gp41 to Inhibit Viral-Cell Membrane Fusion and Infection” Prof. Keliang Liu (Beijing Institute of Pharmacology and Toxicology, China)

“D-amino acid adhesion peptides by combinatorial selection: Control of cellular growth on inert surfaces” Prof. Morten Meldal (University of Copenhagen, Denmark)

“Chromatin: An Expansive Canvas for Chemical Biology” Prof. Tom Muir (University of Princeton, USA)

“The fully-extended peptide conformation” Prof. Claudio Toniolo (University of Padova, Italy)

“The mimicry pathway from anti-glycopeptide antibodies to specific protein antigens of immune-mediated neurodegenerative/neuroregressive diseases: the case study of Rett syndrome” Prof. Anna-Maria Papini (University of Florence, Italy)

Young Investigators Mini Symposium

12 young investigators were selected from over fifty five requests for oral presentation. ESCOM Science Foundation will sponsor two Dr Bert L. Schram Young Investigator Awards for the best presentations.

Dr. Bert L. Schram Poster Awards

Two posters will be selected to receive the Dr. Bert L. Schram Poster awards.

Sponsors and Exhibitors

All the major companies in the field (Biotage, PolyPeptide Laboratories, Protein Technologies, CEM, Aapptec, Aminologics-Miat, Bachem, American Peptide Company, Activotec, Akzo Nobel/Eka Chemicals, BCN peptides, CAT, CBL, Corden Pharma, CPC, CS Bio, Daiso, Hecheng, Hybio, Iris Biotech, Merck Millipore, Rapp-Polymere, PCAS Biomatrix, Peptides & Elephants, Polypure) will be present in the Athens European Peptide Symposium. *Media Partners:* Bioconjugate Chemistry, Chemistry Today and Journal of Peptide Science.

32nd EPS Travel Grants

The EPS has financially supported 20 young researchers by providing travel grants to attend the 32nd EPS.

Researchers who have received grants are as follows:

Jason Arsenault, United Kingdom
Zoltan Banoczi, Hungary
Claudia Bello, Austria
Lieselot Carrette, Belgium
Kiril Chuchkov, Bulgaria
Carlos Filipe Luis, Portugal
Saulo Garrido, Brazil
Emanuela Gatto, Italy
Sunithi Gunasekera, Sweden
Mahmood Haj-Yahya, Israel
S.T. Henriques, Australia
A. Kamynina, Russia
Anna Kwiatkowska, Canada
Emilia Lubecka, Poland
L. Monincova, Czech Republic
Markus Mutenhaller, United States of America
Vijay Pattabiraman, Switzerland
Karolina Pulka, France
Jinquang Zhang, The Netherlands
Esther Zurita, Spain



Constituent Countries of the EPS

(and other countries with EPS members)

Constituent Countries of the EPS¹ (903)

Austria (31)	Greece (52)	Portugal (28)
Belgium (14)	Hungary (36)	Russia (21)
Bulgaria (31)	Ireland (34)	Slovakia (18)
Croatia (6)	Israel (10)	Slovenia (7)
Czech Republic (34)	Italy (46)	Spain (41)
Denmark (47)	Latvia (6)	Sweden (19)
Finland (18)	The Netherlands (47)	Switzerland (38)
France (85)	Norway (21)	United Kingdom (61)
Germany (104)	Poland (48)	

Other Countries with EPS Members¹ (190)

Albania (1)	Estonia (5)	Puerto Rico (1)
Argentina (3)	India (54)	Serbia (1)
Armenia (1)	Iran (5)	South Africa (1)
Australia (14)	Japan (8)	Sri Lanka (1)
Belarus (1)	Jordan (1)	Taiwan (2)
Brazil (3)	Korea (3)	Thailand (1)
Canada (9)	Mexico (2)	Tunisia (1)
China (19)	New Zealand (1)	Turkey (4)
Colombia (1)	Nigeria (1)	USA (36)
Cyprus (2)	Pakistan (1)	Uruguay (1)
Ecuador (1)	Paraguay (1)	Vietnam (1)
Egypt (1)	Philippines (2)	

¹() = Number of members

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CALENDAR of

Forthcoming Events

32nd EUROPEAN PEPTIDE SYMPOSIUM

Athens, Greece

2–7 September 2012

Website: <http://32eps2012.org>

2nd INTERNATIONAL CONFERENCE ON CIRCULAR PROTEINS

Heron Island, Queensland, Australia

14–17 October 2012

Website: <http://circularproteins.org/>

PEPTIDE CHEMISTRY CONFERENCE

Occidental Grand Resort, Mexico

2–6 November 2012

Website:

www.zingconferences.com/index.cfm?

[page=conference&intConferenceID=](http://www.zingconferences.com/index.cfm?page=conference&intConferenceID=82&type=conference)

[82&type=conference](http://www.zingconferences.com/index.cfm?page=conference&intConferenceID=82&type=conference)

49th JAPANESE PEPTIDE SYMPOSIUM

Kagashima, Japan,

7–9 November 2012

Website: [http://www.peptide-soc.jp/](http://www.peptide-soc.jp/jps49/about_en.html)

[jps49/about_en.html](http://www.peptide-soc.jp/jps49/about_en.html)

33rd EUROPEAN PEPTIDE SYMPOSIUM

Bulgaria, 2014

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For more information visit us at the **European Peptide Symposium 2nd – 7th September** in Athens on booth number 35/36 or contact your local Biotage representative to schedule a demonstration


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