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Newsletter

2009 SGMS Meeting

October 29-30

Dorint Resort Blüemlisalp

Beatenberg

Plenary lectures:

| | |
|--------------------------|---|
| Michael T. Bowers | University of California Santa Barbara, USA |
| Marcos N. Eberlin | State University of Campinas, Brazil |
| Jukka Jokela | Aquatic Ecology, Eawag, Dübendorf, CH |
| Reto Stöcklin | Atheris Laboratories, Bernex-Geneva, CH |

SGMS General Assembly 2009

Dorint Resort Blüemlisalp

Thursday October 29, 17:20

We hope that many people will attend our General Assembly 2009 following the afternoon session. During the apèro and the "Dinner Buffet" we will have plenty of time for discussions. As usual latest news will be served at the bars.

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SGMS Meeting ***Andreas A Stämpfli*****Newsletter**

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Notes:

Words from the President

Dear colleagues,

time seems to be flying, because while starting to write these words I realized that it's been eight months already since Andreas resigned and the general assembly handed over the presidency to me.

However, the SGMS board has not been idle and among others invited four renowned scientists to give plenary lectures at this year's annual SGMS meeting, as you can see on the following pages. As usual, with Jukka Jokela from Eawag, we have one presentation from outside our home grounds, since he is going to talk about the questionable need for males in evolution.

Immediately after the last meeting in Beatenberg the SGMS board started to organize a MS workshop, to be held at the 47th Annual Meeting of the International Association of Forensic Toxicologists (Geneva, August 23-27)¹.

There also was intense e-mail traffic between the board members, following a request from John Monaghan of the IMSF to submit candidates for the Thomson Medal to be awarded at the IMSC in Bremen this year. Switzerland together with the Czeck Republic proposed Alexander Makarov, who made it into the final list of candidates. The board then had to select from 21 candidates, then later a reduced set of 9. We voted for 1) A Makarov, 2) C Costello, 3) A Burlingame, 4) P Roepstorff, 5) A Bruins. The final award winners are: Cathy Costello, Catherine Fenselau and Peter Roepstorff, which means that two from our final selection were chosen. Alexander Makarov will be getting another price at the IMSC.

¹ http://www.tiaft2009.org/Docs/workshop_1.pdf



The hottest topic this year however is unquestionably our bid for the IMSC 2015. After long negotiations with the conference centres Basel and Geneva, Renato Zenobi and myself decided to again go for Geneva. Costs were one reason, but also the fact that Geneva is geographically close to France and Italy. As mentioned at the SGMS 2008, France was interested in submitting a joint bid and already has agreed to substantial financial support. Later in the game it turned out that Italy was willing to join us, too. So this time around three societies will be submitting the bid, thus increasing our chances significantly. Furthermore, we have written support from the Austrian MS Society. Deadline for submission is July 17 and after that I will upload the entire bid for your information, and then we need to keep our fingers crossed. Renato Zenobi or I will present our offer in Bremen.

The last bit of news I have is that I have been talking to Gianluca Giorgi, currently president of the Italian MS Society, and we that is the SGMS and the SCI, have agreed to organize a joint MS workshop in Italy next year.

Please refer to our homepage for latest news and open positions. There is quite some traffic on it. Also, as you have realized by reading this, we have started to distribute our Newsletter electronically, including a guideline for producing your own printed copy provided by Andreas.

With this I would like to conclude with my best wishes and I am looking forward to seeing you all in the fall.

Marc Suter
President SGMS

2009 General Assembly of the SGMS

Thursday October 29 , 2009

17:30 h

Dorint Resort Blüemlisalp, Beatenberg

Agenda

1. Nomination of the scrutineers.
2. Approval of the minutes of the 2008 general assembly.
3. President's report and its approval.
4. Treasurer's report.
5. Auditor's report and approval of treasurer's and auditor's report.
6. Decision on the 2010 membership fee.
7. Admission of new members.
8. Election of the auditors
9. SGMS homepage - M Suter.
10. Update on the 2015 IMSC bid.
11. Individual proposals.
12. Miscellaneous.

Individual proposals must be sent to marc.suter@eawag.ch before October 15, 2009.

The President, Marc Suter



Cancellations

Cancellation requests, received by e-mail before September 25, 2009, will qualify for a refund of the fees paid, less a handling charge of 25% of the total payment. After September 25, 2009, no refunds will be made; however, substitute participants can attend.

Notification of all such changes must be sent to sgms@brechbuehler.ch by e-mail before October 16, 2009. Changes will not be accepted at the meeting.

No show: No refund will be made.

Students support program:

Students giving a talk (selection by SGMS Board) will be hosted free of charge. For more information, please call any of the SGMS committee members.

Travel Information:

Travel details together with the complete program will be published on our homepage (www.sgms.ch) and sent out in September together with our official invitation.

SGMS Membership Fee:

Included in the mail that will be sent out in September will be a pink payment form for the annual membership fee of 25 Fr. Please write your name in the comment field!

UBS Switzerland BCL: 292, 10722181.0
IBAN: CH88 0029 2292 1072 2181 0
SWIFT: UBSWCHZH40M

You are kindly asked to pay this fee as soon as possible.

Amyloid formation: peptide folding, aggregation and chirality



Michael T Bowers

Department of Chemistry and Biochemistry
University of California
Santa Barbara, CA 93106 - 9510 , USA

Amyloid diseases occur because proteins or peptides aggregate and are not effectively dealt with by cellular disposal systems. The mechanism of the folding/aggregation process is undoubtedly dependent on the detailed structure of the peptide or protein but many similarities occur across systems. Here we will use model peptide systems that form amyloid crystals or fibrils but are small enough to model with some degree of rigor. These will include members of the enkephalin family of penta-peptides and the peptide NNQQNY. One of the parameters we will investigate is the chirality of the peptide using the YAGFL enkephalin as an example where all chiral possibilities have been explored. This aspect of the study touches on the known but mysterious fact that all natural peptides and proteins use essentially pure L-amino acids in their primary structures.

Mass spectrometry EASIER than ever! - Applications of easy ambient sonic-spray ionization mass spectrometry (EASI-MS)



Marcos N Eberlin

Universidade Estadual de Campinas - UNICAMP
Instituto de Química
Sala A6-111 Campinas, SP Brazil 13083-970

We have introduced recently a new desorption/ionization for ambient mass spectrometry: easy ambient sonic-spray ionization (EASI). When EASI is applied, simple and efficient desorption and ionization of analytes occurs at ambient conditions owing to the bombardment of the surface containing the analyte with a supersonic cloud of very tiny charged droplets. An advantage of EASI-MS is the use of neither heating nor (high) voltages at the spray capillary. EASI-MS provides the cleanest mass spectra (as compared to related techniques) with few solvent cluster ions and the softest ionization (no or reduced dissociation) with enough abundant analyte signals even for EASI-MS/MS. These features facilitate therefore the detection of all components and impurities in a 1:1 component – ion fashion. The high-velocity supersonic EASI spray also facilitates deep matrix penetration thus providing quite homogenous sampling and long-lasting ion signals, with no electro or photochemical interferences. EASI provides therefore a very friendly environment in which to perform ambient mass spectrometry. In this talk we will show examples of the applications of EASI-MS such as for the analysis of drug tablets and on-tablet drug stability, for typification and counterfeiting detection of perfumes, vegetable oils and (bio)fuels, counterfeit money bills, ink aging, death dating, and the analysis of environmental body fluids using semi-permeable membranes.

We will strictly follow a first come first serve policy for the distribution of the hotel rooms (~110 rooms available!).

Registration fees including Hotel accommodation, business lunch, dinner buffet and breakfast and social event:

CHF 275/ person (single room occupancy)

CHF 250/ person (double room occupancy; please indicate roommate)

CHF 200/ person (accompanying person; double room occupancy;
please indicate roommate)

Late Fee: An additional late fee of CHF 50 will be enforced for all payments received after September 1, 2009. NOTE: to qualify for the regular rates payment **MUST** be received by September 1, 2009 - receipt of the registration form without payment will not qualify.

There is no possibility of attending the meeting without Hotel accommodation. Thank you for your understanding!

Please make your payment to

Schweiz. Gruppe fuer Massenspektrometrie (SGMS)
UBS Switzerland BCL: 292, 10722181.0
IBAN: CH88 0029 2292 1072 2181 0
SWIFT: UBSWCHZH40M

Make sure that we can track your payment by ensuring that your name is clearly stated on the payment form. Every year we receive unidentifiable payments due to misleading information on the incoming payments!



SGMS Meeting 2009, October 29-30

Dorint Resort Blüemlisalp, Beatenberg

Oral communications / Abstracts:

Next to the plenary lectures there will be time for several oral communications from various participants. The time allotted will be 20 minutes. Please allow some minutes for discussion. The abstract incl. author's name and address should be sent latest by Friday July 31, 2009 directly to the SGMS by e-mail (marc.suter@eawag.ch). The abstract should not exceed 2500 characters.

Please note that the lecture hall is equipped with PC projection facilities only. To avoid technical problems everybody will be using the PC provided by the organizers (no personal laptops or MACs allowed). Only presentations prepared or saved as Microsoft Office Power Point 2003 will be accepted.

In preparing your presentation, please consider that your presentation has to be formatted horizontally and remember the dictum "less is more". To obtain clear slides, consider the differences between the size of your office and that of an auditorium for 120 people. The attendants sitting in the last row also have the right to read the contents of your slides without any problem. Test your slides on readability.

Registration and Accommodation:

Please, send your registration (only completely filled in forms!) to sgms@brechbuehler.ch not later than September 25, 2009. Either PDF by email or filled in printed form by ordinary mail will be accepted.

There is absolutely no need to register personally at the Dorint Resort Blüemlisalp! The SGMS committee will again manage the hotel reservation and payments. Only the "extras" will have to be paid directly at the hotel-reception (like: extra nights, phone-calls, muh-bar, mini-bar ...).

Why there are males



Jukka Jokela

Aquatic Ecology
Eawag, Ueberlandstrasse 133, PO Box 611
8600 Duebendorf, Switzerland

In several groups of organisms (plants, insects, lizards, fishes) occasional parthenogens (asexual females) are found. Asexual lineages have higher per-capita growth rates because they do not produce males, and do not need to invest in costly mating activities. Therefore it is striking that sexual reproduction dominates the world. Sexual reproduction is a paradox because sexual populations should be vulnerable to invasion by ecologically similar asexual females. One of the hypotheses to explain dominance of sex relates the advantage of sexual reproduction to avoidance of coevolving parasites. As asexual genotypes become common, they may also become disproportionately infected by parasites that have evolved to evade the host's genetically based self-recognition system. Under this idea, high infection rates in the common asexual clones can periodically favor the genetically diverse sexual individuals (the Red Queen hypothesis), and may promote the short-term coexistence of sexual and asexual populations. Testing the idea requires comparison of sexual and asexual lineages, which are in direct competition. I will review results of a long-term study that examines the clonal dynamics and parasite coevolution in a "mixed" (sexual and asexual) population of freshwater snails (*Potamopyrgus antipodarum*). We found that, within 7-10 years, the most-common clones were almost completely replaced by initially rare clones in two different habitats, while sexuals persisted throughout the study period. The common clones, which were initially more resistant to infection, also became more susceptible to infection to sympatric parasites over the course of the study. Overall, the results



support the basic tenets of the Red Queen hypothesis for the maintenance of sex and show that the coevolutionary dynamics predicted by the theory may operate in mixed populations of sexuals and asexuals favoring sexual reproduction.

13. Miscellaneous

Christian Staub presents us the TIAFT 2009 meeting which will be held in Geneva. At this meeting, a LC/MS/MS workshop will be organized by the SGMS.

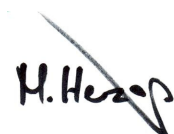
Yuri Tsybin informs us, that there will be a Mass Spec workshop on fundamentals from 17.8 – 21.8.2009

The next SGMS Meeting will be taking place at the same location (Beatenberg) October 29./30. 2009.

The General Assembly closes at 17:28

Beatenberg, 06.11.2008

Matthias Herzog

A handwritten signature in black ink that reads 'M. Herzog'. The signature is written in a cursive style and is partially crossed out by a diagonal line.

Secretary of the SGMS



10. SGMS Homepage – Marc Suter

The “jobs” page is the most visited on the homepage. A total of 21 job openings in Switzerland and Europe have been advertized on this site over the last 12 months.

Additionally, all Newsletters except for one (11/2, 1993) are posted on the homepage

The instrument exchange has been discontinued in February 2008, due to lack of traffic.

11. IMSC bid 2015

Renato Zenobi and Marc Suter will submit a bid for the IMSC 2015 at the IMSC 2009 in Bremen (30.8 – 4.9.2009). Candidate cities for the IMSC 2015 are Basel or Geneva. It is most likely that France, Italy and England will also present a bid in Bremen. France has also inquired about a joint bid with Switzerland.

All members agreed that we have a better chance to win the bid for the IMSC 2015 if we do this jointly with France. Details of the joint organization will have to be worked out.

12. Individual proposals

None

Venomics: targeted drug discovery and lead optimization using animal venoms



Reto Stöcklin

Atheris Laboratories, PO Box 314
1233 Bernex-Geneva
Switzerland

Venoms are rich mixtures of peptides and proteins evolved by Nature to catch and digest preys or for protection against predators. They represent extensive sources of potent and selective bioactive compounds to discover and develop new drugs. Conventional bioactivity-guided strategies are time consuming and require large amounts of material. In contrast, state-of-the-art proteomic, transcriptomic and post-genomic technologies coupled to bioinformatics can swiftly generate abundant and valuable data using minimal sample amounts.

In a typical drug discovery project, we use our databases to select venoms offering higher chances to generate hits for a given target. The venoms are pre-fractionated using specific methods and natural libraries are made ready for bioassays (HTS). The fraction composition is often investigated in parallel on our mass spectrometry and bioinformatics platform with database matching. Stringent criteria are used to pick out fractions for deconvolution, and hits are synthesized at an early stage to generate synthetic libraries of bioactive candidates. After deeper evaluations, selected leads undergo optimization through drug design and structure-function studies. Here again, we developed an original approach: our platform is designed to screen related venoms and other organisms to identify natural analogues of the lead compound in order to exploit what nature has optimized through million years of natural selection.



Our bioactivity-guided, structure-driven and biocomputing-assisted Venomics strategies will be illustrated through the discovery of novel sarafotoxins (endothelin-type peptides), original protease inhibitors (pHpG's), bradykinin-potentiating peptides (BPP's) and novel antimicrobial peptides. The presentation will also focus on "CONCO", the first fully integrated Venomics project, which is devoted to cone snails. The genome, transcriptome and proteome of *Conus consors* are currently exhaustively studied. The biological activities of natural and synthetic libraries are investigated. Selected peptides are further characterized in vivo and their potential as novel biopharmaceutical drug candidates is evaluated. Additionally, the biodiversity, ecology and molecular evolution of a wide range of venomous gastropod species are studied. We believe that our unique techniques, combining mass spectrometry to in silico data and text mining strategies, are a straightforward discovery approach for novel biomolecules from animal venoms and other natural sources.

CONCO, the cone snail genome project for health, is funded by the European Commission: LIFESCIHEALTH-6 Integrated Project LSHB-CT-2007-037592. We are grateful to the governments of New Caledonia and French Polynesia.

References: See http://www.atheris.com/sel_lit.php.

Dr. Sohrab Kheradmandan, Applied Biosystems

Mr. Jean-Christophe Probst, University of Zurich

8. Election of the president and the members of the committee

Marc Suter is elected as new president by all members present.

Yuri Tsybin is elected by all members as a new member of the committee.

Matthias Herzog is elected by all members as the new secretary.

Jean-Luc Wolfender, Stephan Brombacher, Laurent Bigler and Andreas Stämpfli are re-elected by all members.

9. News from the SCS – Marc Suter

Marc informs about news from the SCS. In August 2008, the SCS foundation has been created. Its main tasks are i) fundraising for nonprofit projects, ii) investment and administration of the funds, iii) awards and iv) project controlling. By creating a tax-free foundation, the SCS reduces its expenses. The board of the foundation consists of R Ernst (Nobel laureat), G Fráter (president SCS), J Weber (treasurer and dean Univ. Geneva), R Wehrli (CEO Gurit Holding; president SCGI) and J Witmer (president board of directors, Givaudan). More information can be found on their homepage <http://www.swiss-chem-soc.ch>



4. Treasurer's report

| | Postal account | Banking account | Total |
|-------------------------------------|-------------------|--------------------|------------------|
| Balance Oct. 1st, 2007 | 34'881.64 | 30'291.48 | 65'173.12 |
| Revenues | 388.90 | 35642.34 | 36031.24 |
| Expenses | 8520.80 | 38584.11 | 47104.91 |
| Balance Sept. 30st, 2008 | 26749.74 | 27349.71 | 54099.45 |
| Difference | -8131.90 | -2941.77 | -11073.67 |

5- Auditor's report and approval of treasurer's and auditor's report

Andreas Topp and Peter Oggenfuss have checked the treasurer report.

Stephan Brombacher reads the auditor's report, as the auditors are not present.

The treasurer's report is accepted and approved by all members.

Andreas Topp and Peter Oggenfuss have both accepted to be auditors again.

6. Decision of the 2008 membership fee

The membership fee for 2008 remains at CHF 25.00 per year and member. This is accepted by all members present.

All members are advised to put their name on the invoice to make life easier for the treasurer. Especially industry tends to pay with only the company name as reference, making it extremely difficult to track down who this payment concerns.

7. Admission of new members

The following new members are admitted to the SGMS:

President's Report 2008

There is time for a change. After 6 years on top of the SGMS it is time to hand over the steering wheel to another person. There is no statement in the statutes nor exists a non-written rule somewhere to make a shift in competencies every six year, but fact his: it is always to leave when everything goes well or after some great event.

It was in 2002 when I got the presidency from Laurent Fay. It was the year of the 20st anniversary of the SGMS and the first time we at the annually meeting here at Beatenberg. It is a great location with a marvelous view over the Bernese Alps and on sunny days Beatenberg is very close to Eiger, Mönch and Jungfrau. A nice view, not only for our invited speakers but for all the other too. Besides all of the beauty of the surroundings the Hotel Resort Blüemlisalp – you remember this is almost the same name as it was back in 2002 – and its management always did its best for hosting us. There was always a hearty welcome and I always enjoyed the dinner buffets. Of course I loved also going after the dinner to the Muh-bar for all the ... discussing.

Anyway especially because of the nature of the facilities the SGMS meetings used to be - Rigi, Chaumont and now Beatenberg - it could keep its very familiar and cozy set-up. SGMS is almost like a big family especially coming off the Schlunegger group from the University of Berne.

There was and I hope there will be always plenty of time for networking, socializing or simply said discussing and chatting. This makes our meeting so unique. There always is besides a perfect scientific program some time to meet and greet.

During the last 6 years I could represent SGMS at the IMSC in Edinburg 2003 and Prague 2006. I really enjoyed being there. In Prague I got the opportunity to chair one session. It was a very special moment. Not only because of the size of the conference room but also because the first speaker of the session was Prof Yoshinao Wada - the



Japanese representative having won the 2012 bid for Kyoto against our Swiss bid the day before. It was therefore a pleasure to congratulate him once more.

Of course there were other highlights during these 6 years, but I do not want to bother you with all the names of the invited speakers starting from today and going backwards till 2003. But we had every year a very attractive program AND here I have to thank all my colleagues from the committee. It was the entirety of the team what made all this possible, the connections and the network of all of us. It was fun working with them.

Great fun was also setting up the 25th anniversary meeting we had last year. Not only the scientific program was one highlight chasing the other but also the social event was very special. Having dinner at Grand Hotel Giessbach and going there by boat and having An-Lar on the boat was just great. I truly believe that this was/is an unforgettable event. As I said there is time for a change and I no longer want to bother you with too much of details. After six years I would like to hand over the reins for the SGMS. But I would like to stay for another period within the committee just for doing some back office work like the newsletter and running errands for the SGMS before and while the meeting.

This is it.

Andreas Stämpfli

Minutes of the 2008 General Assembly of the Swiss Group for Mass Spectrometry

Dorint Hotel Beatenberg– 6. November 2008 – 17:32

1. Nomination of the scrutineers

Beat Aebi and Christian Guenat are elected by all members present.

2. Approval of the minutes of the 2007 general assembly

The minutes are approved unanimously.

3. President's report and its approval

After six years of duty as acting president Andreas Stämpfli resigns. He gives us a brief overview of the past six years. Following the meetings in Rigi Kaltbad and Chaumont, Neuchâtel, this is the 6th year, that the SGMS meeting is taking place in Beatenberg. During that time the committee has invited 20 speakers from all around the world (see www.sgms.ch for details)

The work of Andreas is honoured with a big applause and a gift from the committee. Andreas informs the members that he will stay on the committee.

Andreas Stämpfli also informs the members about the resignation of Thomas Läubli, our secretary, who is also warmly thanked for his great contributions.

The president's report is approved by all members