

Message from the President



Dear Members,

the 64th Annual Meeting of GA, held in Copenhagen, on July 24–27, within the 9th Joint Natural Product Conference has been very successful. GA was the leading organising society this year in co-operation with the “sister” societies AFERP, ASP, PSE, SIF and for the first time JSP, the Japanese Society of Pharmacognosy.

I am very grateful to Profs. Anna Jäger and Dan Staerk and the other colleagues of the Local Organizing Committee to have put together a very attractive scientific and social program, and have set up such an extraordinary meeting. All the participants will keep this meeting in best remembrance also for the tasty food served during the conference the hugely fun social events. Once again, a big “thank you” to the conference organizers.

About 1100 scientists from more than 70 countries attended the conference, six invited plenary lecturers, thirteen key-note speakers, fifty-one short lecture and more than 1120 posters presented had a key role in the great success of the congress. All the abstracts will be published in *Planta Medica*. I want to thank the publisher, Thieme Verlag Stuttgart, the issue editors Lars Porskjær Christensen and Xavier Fretté, very much for all their efforts and for the good collaboration.

The first day of the conference three pre-congress events, namely the *Young Researchers Workshop*, the *Regulatory Affairs Workshop* and a pre-symposium on *Advances in (Bio)Analytical Techniques Applied to Natural Products Research* took place. As previous years, GA supported 11 young scientists and 6 post-docs from 13 countries with travel grants. During the congress Gorawit Yusakul from Khon Kaen University, Thailand/Kyushu University, Japan, has been announced as the winner of the Egon-Stahl-Award in Bronze 2016. Professors Ronald Quinn, Noe Sturm, Esther Kellenberger from Australia/Strasbourg were awarded the *Planta*

Medica Best Paper for their manuscript entitled “*Similarity between Flavonoid Biosynthetic Enzymes and Flavonoid Protein Targets Captured by Three-Dimensional Computing Approach*”. *Planta Medica* is the official scientific journal of GA and I hope that many of you in the future will consider our journal for the publication of your valuable results, you should be the next awardee! Alternatively, you can to submit your next paper to *Planta Medica International Open*, the open access companion journal of *Planta Medica*.

Finally, as you have been informed, a low rate online access to *Planta Medica* for members of GA is available and I hope that this service will intensively be used. For all the details concerning the 64th Annual Meeting of GA and 9th Joint Natural Product Conference you can find a comprehensive report in this Newsletter.

I am very happy to announce that four awards are scheduled for 2017: the *Egon-Stahl-Award in Gold*, the *Egon-Stahl-Award in Silver*, *Dr. Willmar Schwabe Research Scholarship for Young Scientists* and the *Bionorica Phytoneering Award*.

Announcements of the awards have been published on the GA website (<http://www.ga-online.org/awards>), where you can find the details for application and you will also find them in this Newsletter. Again, I wanted to draw the attention of all of you to these awards and encourage the participation of both GA members and non-members to make submissions. You all should consider whether your research, or maybe that of a research group you are taking part would fit with the aims of these prizes, or if you know of an outstanding young scientist that could be eligible for the Egon-Stahl Award in Silver. If you are a senior scientist from a reduced fee country, inform your PhD students of the Dr. Willmar-Schwabe Research Scholarship! This scholarship may be a unique opportunity for young researchers career! Thus, I look forward to numerous applications.

The next and 65th annual congress of GA will be held in Basel, Switzerland and will be organized by Prof. Hamburger assisted by Prof. Butterweck. I am confident this conference will be an exceptional opportunity to reinforce existing relationships, to generate new collaborations and friendships, to energise efforts among the diverse players – academics, industry and regulatory organisations – all focused on promoting the scientific study and application of natural products. Detailed information is available soon from our homepage and from the second circular.

Besides our annual congress, GA is again co-organizing several other symposia on medicinal plant research during the year 2017, and I hope that you can attend some of these meetings as well. The XXIst International Congress “*Phyto-pharm 2017*” will be held in Graz, 2–5 July (www.doclinika.ru/phyto2017.html). A workshop on “*Nagoya protocol*” will held 27th February in Flo-

rence and other events are reported on GA website.

I am very delighted this year we had an increasing international interest in a membership in GA: we even have attracted a broad range of new members from a multitude of organizations and countries who I personally would like to welcome as new and active members of the GA family. The list of new members is in this Newsletter. Recently GA has also created the foundation "Plants for Health", and I am asking to all the GA members for financial support and to be very active in approaching possible sponsors in order to be able to pro-

vide funding of research networks, innovative projects and junior research groups and to promote research activities in the field of medicinal plant research. More details you can find later in this Newsletter and on the foundation homepage (<http://www.plantsforhealth.org/>).

Finally, this second Newsletter coincides with the end of 2016 and I want to take the chance to thank all the colleagues for all their time and the enthusiasm they have spent for GA during this year. My special thanks to the honorary members, the members of the advisory board, the chairs of the workshops, the working groups, and

all people involved actively on GA events and developments. A very special "thank you" to the editor of the Newsletter, Prof. Hensel, for all his efforts and his patience in collecting contributions to keep the Newsletter attractive and valuable.

Wishing you a prosperous, brilliant and successful 2017, I am looking forward to see you in Basel!

Cordially,

Anna Rita Bilia, GA President



A Foundation of the Society for Medicinal Plant and Natural Product Research (GA)
Eine Stiftung der Gesellschaft für Arzneipflanzen und Naturstoffforschung (GA)

GA Foundation Plants for Health: What's ongoing right now?

The Society for Medicinal Plant and Natural Product Research has established the Foundation "Plants for Health" to identify and support highly motivated groups of researchers, innovative lead compound product ideas, and promising developments at an early stage. The foundation shall help to shape high-profile and innovative research based on natural substances and herbal extracts towards new and potent drugs.



GA president Prof. A. Bilia and the chairman of Plants for Health Prof. R. Bauer during a press conference in Munich, Germany, for promoting the foundation.

The foundation has been recognized as the legal non-profit organization of civil law by the local Government of Oberpfalz/Germany on April 30th, 2014. It is directed by the following Foundation Board: Prof. Dr. Rudolf Bauer (Chairman), Prof. Dr. Andreas Hensel, Prof. Dr. Michael Heinrich, and Dr. Bernhard Röther. All activities and achievements of the foundation can be found in the internet at <http://www.plantsforhealth.org>.

In 2016 we have received substantial donations from Dr. Mansukh Wani, as well as from the companies Weber & Weber GmbH&Co. KG and Medice Arzneimittel Pütter GmbH& Co. KG (Isarohn, Germany). Moreover, many donations were obtained on the occasion of the 60th birthday of Prof. Rudolf Bauer. All these contributions are highly acknowledged and appreciated.

This year two initial projects have been supported by the foundation (see report below). However, our funds are still not enough to provide big support. Therefore, we have to continue to collect money.

During a press conference on December 7th, 2016, in Munich, the goals of the foundation have been presented to the public. We hope that many people will be attracted and committed to support our ideas in the future.

Rudi Bauer
Chairman of Plants for Health

1st Research Award of the Foundation Plants for Health

Plants for Health aims at supporting highly motivated and talented research groups. The foundation wants to provide start-up funds, which help to develop projects leading to promising developments in the area of medicinal plant and natural product research including the search for innovative lead compounds, exciting product ideas and novel pharmacological, clinical and other approaches in medicinal plant and natural product research.

As the foundation successfully has started to receive donations and additional endowments from different sources, an initial monetary support was granted to two research groups for the initiation of a high quality research projects. The following projects have been awarded:

Natural products upregulating SMAC/Diablo genes expression from *Ficus deltoidea* and their role in prostate cancer chemoprevention.

Principal investigator: Dr. Mohd Mukrish Mohd Hanafi,
University College of London UCL, School of Pharmacy, London, U.K.

Mycetoma – perspectives of natural products from plants as leads to new therapeutics for the 18th neglected tropical disease.

Principal investigator: Prof. Dr. Sami A. Khalid, Faculty of Pharmacy,
University of Khartoum, Khartoum, Sudan.

1st Research Award of the Foundation Plants for Health to Prof. Khalid as seed money for initiating successful screening against Mycetoma:



The expert in interview with Prof. Hensel (Board of the foundation)

Dear Prof. Khalid,

Congratulations on the PLANTS FOR HEALTH award for your research project on Mycetoma. First of all, this disease is not very in the mainstream of research and most people do not even know about it. Could you please get us some details on this neglected disease?



Mycetoma is a unique progressive, granulomatous inflammatory disease involving the skin and subcutaneous tissue after a traumatic inoculation of a pathogenic bacteria or fungi and hence mycetoma is usually classified into actinomycetoma and

eumycetoma, respectively. However, the clinical presentation of both types is almost identical irrespective of the causative organism. The infection is commonly spreading subcutaneously at a slow rate with no pain and could involve a number of secondary nodules which may suppurate and drain through multiple sinuses. Eventually it causes tissue destruction, deformity, disability and death in extreme cases.



Massive foot mycetoma

The most commonly infected site is the foot followed by the hand and less frequently the infection involves the knee, arm, leg, head and neck, thigh, and the perineum. Very rarely the disease may engulf other organs (e.g. chest and abdominal walls, facial bones, vulva, orbit, scrotum and oral cavity).

In which countries does mycetoma mainly occurs and what about the impact on health and economy?

Mycetoma has an uneven distribution in both tropical and subtropical regions. It is especially prevalent in a belt, stretching between the latitudes 15° South and 30° North which is known as “mycetoma belt”. The belt encompassing countries like Brazil, Chad, Ethiopia, India, Mexico, Senegal, Somalia, Sudan, and Yemen.



The Mycetoma Belt

Due to its devastating health and economic impact on a sizable number of the population coupled with a number of gaps in our knowledge (i.e. precise global burden, mode of transmission, diagnosis, and treatment) mycetoma has been enlisted this year by the World Health Assembly as one of the neglected diseases.

What is the strategy you choose for your research on Mycetoma?

Although actinomycetoma is amenable to treatment by antibiotics and antimicrobial agents, the eumycetoma is very stubborn pathogen due to its unsatisfactory response to almost all currently available antifungals. Combined long treatment with high dose of some azole antifungals (e.g. itraconazole) coupled with aggressive surgical excisions seem to be the only options available for the treatment of eumycetoma at the moment. Although some new broad spectrum antifungal triazoles (e.g. ravuconazole) holding some promise, the current treatment outcome is resulted in a low cure, high recurrence and amputation rates. Therefore, there is an emergent need to discover and develop a novel drug to overcome the devastating impact of this disease.

Do you have special medicinal plants in mind which are used traditional against this disease?

Our survey revealed that there are very few medicinal plants used in the treatment of mycetoma. We intend, however, to screen plants at random with some bias towards plants commonly used for the treatment of skin diseases.

Hopefully you will get positive data, but how can these findings streamlined into a drug development towards products for the patients?

We know very well that this not an easy task due to the difficulty encountered in discovering selective antifungals for systemic use against various fungal diseases. Nevertheless, our preliminary screening of more than 100 extracts and fractions and more than 60 pure compounds from our depository using our in-house developed in vitro method resulted in the isolation of some promising hits. I would like to take this opportunity to urge all GA members to spare 2-5 mg of pure compounds from their depositories to send them to us to screen against mycetoma.

Although the financial support from PLANTS FOR HEALTH is not substantial due to the currently limited resources of this initiative, do you have the feeling the project can be realized successfully?

Despite the limited financial value of this award I do personally consider this "seed money" has a profound psychological impact on our research. Actually this award represents a watershed moment or a historical turning-point in our mycetoma drug discovery efforts.

What impact does PLANTS FOR HEALTH has for you personally?

This award has a special significance to me and I feel honoured for been acknowledged by such an esteemed and prestigious foundation. I am grateful to my collaborator Prof. Dr Thomas Schmidt to bring this initiative to my attention and Prof. Dr Rudi Bauer, Chairman of Plants for Health and all respectable members of the committee for giving us the opportunity to further our collaborative research against Mycetoma. I am so humbled to have been chosen for this award and look forward to successfully reporting the research outcomes in the forthcoming GA meeting in Basel. I am proud to have a share on this limited fund which I consider as a landmark on our drug search for treating this destructive disease.

Dear Sami, the foundation and GA wishes you all the best for your research and we are excited to get data in the next meetings of GA!

Prof. Dr. Andreas Hensel

Planta Medica International Open – PMIO

Planta Medica International Open, the companion journal of *Planta Medica*, is a new open access journal in the field of medicinal plant and natural product research. It focusses on the publication of new results, and accepts manuscripts in the form of letters/short communications and original papers. PMIO accepts author initiated submissions, and transfers from *Planta Medica*.

As an open access publication, all articles in PMIO are made freely available.

PMIO will apply for listing in Pubmed Central and Web of Science as soon as possible.

PMIO (Editor in Chief: Prof. Dr. Luc Pieters) will continue to be associated with *Planta Medica* (Editor in Chief : Prof. Dr. Veronika Butterweck).

More information can be found at: <http://www.thieme.com/books-main/biochemistry/product/3610-planta-medica-international-open>



GA introduces free Webinars for all Members

Dates for the Webinars 2016/17:

Dec. 07, 2016

Screening virtual and physical natural product libraries to identify bioactive hits and leads

Prof. T. Schmidt
Münster

Feb. 13, 2017

Quality control of Chinese herbal medicines

Prof. R. Bauer
Graz

April 18, 2017

Structure determination of substances in mixtures

Dr. Z. Kulic
Karlsruhe

July 18, 2017

Concepts and strategies in natural product biotechnology

Prof. O. Kayser
Dortmund



Prof. Fürst, Frankfurt, manages the GA webinars.

Some Data from the Membership Data Base

New GA members

Since May 2016 the following 117 members have joined our Society.

GA warmly welcomes all new members and hopes that the Society may serve them as an international platform for many scientific and personal contacts.

Sameh **AbouZid**, Egypt; Raphael **Ackah**, Ghana; Francis **Ackah Armah**, Ghana; Veena **Agrawal**, India; Norizan **Ahmat**, Malaysia; Douglas Bosco **Aidoo**, Ghana; Chinwe Stephenie **Alaribe**, Nigeria; Bob **Allkin**, Great Britain; Fatemeh **Amini**, Iran; Naalamle **Amisshah**, Ghana; Daniel **Anokwah**, Ghana; Nora **Arthur (nee Jackson)**, Ghana; Roberta **Ascrizzi**, Italy; Omotayo **Ashafa**, South Africa; Philip Kobla **Atchoglo**, Ghana; Mahdi **Ayyari Noushabadi**, Iran; Antonio **Azzollini**, Switzerland; Amir **Balash**, Germany; Norazah **Basar**, Malaysia; Fabrizio **Camponovo**, Switzerland; Murielle **Codo-Toafode**, Benin; Vanderlan **Da Silva Bolzani**, Brazil; William **Dakam**, Cameroon; Susana Oteng **Dapaah**, Ghana; Aliyeh **Darzi Ramandi**, Germany; Hakimeh **Dezhkam**, Iran; Andre Luis **Dias Araujo Mazzari**, Great Britain; Frederik **Diness**, Denmark; Nina **Djapic**, Serbia; Ibrahim **Eldeen**, Malaysia; Amal **El-feky**, Egypt; Hana **El-Rafie**, Egypt; Ibrahim **El-sayed**, Egypt; Stefan **Esch**, Germany; Petrea **Facey**, Jamaica; Aysa **Ferdoushi**,

Bangladesh; Claudio **Frezza**, Italy; Katerina **Georgousaki**, Greece; Claudia **Giuliani**, Italy; Hippolyt **Greve**, Germany; Prasoona **Gupta**, India; Attila **Hunyadi**, Hungary; Mutiat **Ibrahim**, Nigeria; Muhammad **Ichwan**, Indonesia; Simon **Jackson**, Ireland; Sophie **Jacobs**, Germany; Shajarah-tunnur **Jamil**, Malaysia; Amir Reza **Jassbi**, Iran; Jonathan **Jato**, Germany; Yakubu **Jibira**, Ghana; Felipe **Jimenez Aspee**, Chile; Thana **Juckmeta**, Thailand; Peggy **Jungke**, Germany; Niloofar **Kahkeshani**, Iran; Aisyah Salihah **Kamarozaman**, Malaysia; Mahendra **Khyade**, India; Isaac **Kingsley Amponsah**, Ghana; Rita **Könye**, Hungary; Ka Yui **Kum**, Great Britain; Pranporn **Kuropakornpong**, Thailand; Fotini **Lamari**, Greece; Maria Dolores **López**, Chile; Ponlawat **Maki**, Thailand; Edna **Makule**, Tanzania; Peter **Marquardt**, Germany; Lisa **Marx**, Germany; Paapa **Mensah-Kane**, Ghana; Rola **Milad Labib**, Egypt; Evelyn **Mireku**, Ghana; Mahmood Reza **Moein**, Iran; Nur Sumirah **Mohd Dom**, Malaysia; Mohd Mukrish **Mohd Hanafi**, Great Britain; Mohamad **Mroueh**, Lebanon; Taj **Muhammad**, Sweden; John **Murray**, Ireland; Punniamurthy **Natesan**, India; Zahra **Nazemosadat**, Iran; Charles **Nnadi**, Germany; Samuel **Odeyemi**, South Africa; Josephine **Ofeimun**, Nigeria; Emmanuel **Ogbadoyi**, Nigeria; Adebowale **Olabanji**, Nigeria; Opeyemi Joshua

Olaturunji, France; Abimbola **Oloye**, Nigeria; Eric Omori **Omwenga**, Germany; Emmanuel **Orman**, Ghana; Patience Ogoamaka **Osadebe**, Nigeria; Mohadeseh **Ostovar**, Iran; Mehdi **Pasalar**, Iran; Norbert **Peporine Lopes**, Germany; Jörg **Pöhlitz**, Germany; Jayanthi **Ponnusamy**, India; Yomica **Powder-George**, Trinidad and Tobago; Sylvia Utami Tunjung **Pratiwi**, Indonesia; Mohamed Mallique **Qader**, Sri Lanka; Hassan **Rezadoost**, Iran; Davide **Righi**, Switzerland; Elisabeth **Rivaraminten**, Switzerland; Andrés **Rivera Mondragón**, Belgium; Saheed **Sabiou**, Nigeria; Wan Mohd Nuzul Hakimi Wan **Salleh**, Malaysia; Fabien **Schultz**, Germany; Peter Adekunle **Segun**, Nigeria; Anastasiia **Shcherbakova**, Germany; Gugu **Sibandze**, Great Britain; Nina **Stahel**, Switzerland; Cynthia **Suarez**, Argentina; Nassifatou Koko **Tittikpina**, Germany; Hoai **Tran**, Germany; Olga **Tsiftoglou**, Greece; Katoesja **van der Hoeven**, Belgium; Tami **Wahl**, USA; Jue Theresa **Wang**, Switzerland; Manuela **Wende**, Germany; Kanchana **Wijesekera**, Sri Lanka; Nor Hisam **Zamakshshari**, Malaysia; Mohammad Ebrahim **Zohalinezhad**, Iran.

Dr. Birgit Benedek, GA Secretary

Announcement of the Egon Stahl-Award in Gold 2017 of the Society for Medicinal Plant and Natural Product Research (GA)



The Egon-Stahl-Award in Gold is the highest scientific honour of the Society for Medicinal Plant and Natural Product Research (GA). It can be awarded every third year.

The Egon-Stahl-Award in Gold acknowledges the outstanding scientific lifetime oeuvre of an eminent scientist who has been closely attached to Pharmaceutical Biology (Pharmacognosy, Chemistry of Natural Products) throughout his scientific career.

The prize will be awarded during the 65th International Congress and Annual Meeting of GA in Basel, Switzerland, 3–7 September 2017. The award winner will be invited to present a lecture.

Nominations can be made by all regular members of the Society for Medicinal Plant and Natural Product Research. Nominations of oneself can not be considered. Nominations should be submitted to the Head of the Awards Committee of GA. The following must be enclosed with the nomination:

- a detailed appreciation of the scientific oeuvre of the proposed candidate
- names of experts who could be consulted

The Executive Council of the Society for Medicinal Plant and Natural Product Research (GA) will give expert advice about the nominations submitted and make a selection. The President is free to consult further experts.

The Egon-Stahl-Award in Gold is endowed with € 5.000.

All documents have to be submitted in electronic form (as email attachments) to: Prof. Dr. Matthias Hamburger, Institute of Pharmaceutical Biology, Department of Pharmaceutical Sciences, University of Basel, Klingelbergstraße 50, CH-4056 Basel, Switzerland, e-mail: matthias.hamburger@unibas.ch

Deadline for submissions is **1. March 2017**.

Prof. Dr. Matthias Hamburger
GA Vice-President
and Head of the Awards Committee

Announcement of the Egon Stahl-Award in Silver 2017 of the Society for Medicinal Plant and Natural Product Research (GA)



On the occasion of his 60th birthday, Professor Dr. Dr. h.c. mult. Egon Stahl donated a medal, a document and a monetary prize in order to recognize and promote young scientists working in the field of Pharmacognosy (Pharmaceutical Biology) and Analytical Phytochemistry.

As a rule, the silver medal and an award of € 3,000 should be awarded to scientists up to the age of about forty, who have published outstanding scientific work during the years following their graduation.

In 2017 the ESA Silver Award will be given during the 65th International Congress and Annual Meeting of GA in Basel, Switzerland, 3–7 September, 2017. The award

winner will be invited to present a lecture. Members of the Society for Medicinal Plant and Natural Product Research (GA) are invited to submit nominations for candidates together with supporting data to the Head of the Awards Committee of GA. A nomination for the prize has to include a motivation letter explaining the significance of the scientific achievements of the candidate, a CV of the candidate, an index on her/his publications, and reprints of several of his/her more recent publications. All publications can be taken into consideration.

All documents have to be submitted in electronic form (as email attachments) to:

Prof. Dr. Matthias Hamburger, Institute of Pharmaceutical Biology, Department of Pharmaceutical Sciences, University of Basel, Klingelbergstraße 50, CH-4056 Basel, Switzerland, e-mail: matthias.hamburger@unibas.ch

Deadline for submission is **15. March 2017**.

Prof. Dr. Matthias Hamburger
GA Vice-President
and Head of the Awards Committee

Announcement of the Dr. Willmar Schwabe Research Scholarship 2017 for Young Scientists by the Society for Medicinal Plant and Natural Product Research (GA)



Dr. Willmar Schwabe
From Nature. For Health.

Endowing Sponsor:

Dr. Willmar Schwabe GmbH & Co. KG,
Karlsruhe (Germany)

Endowment: 10.000 EURO

Objective

The aim of the **Dr. Willmar Schwabe Research Scholarship for Young Scientists** is to support young scientists, especially from developing countries, in a research attachment to a leading research institution. Projects focusing on pharmacological or clinical research of phytopharmaceuticals and their active substances are particularly welcome. The award is exclusively used for travelling and living costs of the awardee, and not for consumables. Duration of the attachment of at least 6 months is mandatory.

Criteria for Application

- Advanced PhD students (year 2 onwards), and postdocs.
- In case of similar scientific quality of applications applicants from developing countries shall have priority.
- GA membership for at least one year prior to application, with paid fees.

- Age: preferably 30 years of age (post-docs) or younger (PhD students).
- The hosting institution states in the Letter of Acceptance that (i) it is prepared to cover the cost of consumables used for the research project; (ii) that the student will have an adequate laboratory infrastructure and; (iii) that a tutor is assigned who will supervise the applicant during his/her stay.

Documents for Application

- Letter of Motivation (applicant)
- Letter of Support (supervisor)
- CV and list of publications
- Project description including experimental design, time schedule and justification why the research shall be performed in the respective institution
- Letter of Acceptance (hosting institution)
- Confirmation of the host institution to cover the laboratory costs (consumables)
- Specification of costs for travelling and living

The **Dr. Willmar Schwabe Research Scholarship for Young Scientists** will be bestowed in a ceremony during the will be granted during the 65th International Congress and Annual Meeting of GA in Basel,

Switzerland, 3–7 September 2017. The scientific results of the project shall be presented during the next annual congress, preferably in a short lecture. The awardee has to prepare a final report on the project supported by this grant. This report is to be signed by the head of the host institution. A copy of the signed report has to be sent to the GA president and to Dr. Willmar Schwabe GmbH & Co. KG. In case of publication of the results the award has to be mentioned in the Acknowledgement.

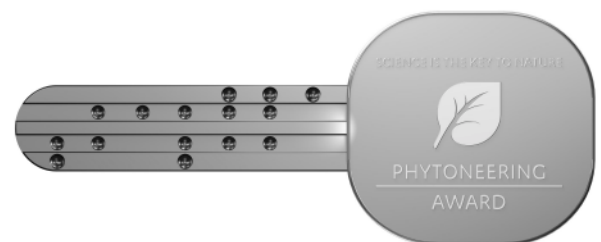
The **deadline** of submissions for the 2017 announcement is **February 28, 2017**.

Applications are to be sent in electronic form (as e-mail attachment, maximum size of all attachments 10 MB) to:

Prof. Dr. Matthias Hamburger, Institute of Pharmaceutical Biology, Department of Pharmaceutical Sciences, University of Basel, Klingelbergstraße 50, CH-4056 Basel, Switzerland, e-mail: matthias.hamburger@unibas.ch

Prof. Dr. Matthias Hamburger
GA Vice-President
and Head of the Awards Committee

Announcement of the Bionorica Phytoneering Award 2017 by the Society for Medicinal Plant and Natural Product Research



BIONORICA SE is globally one of the leading companies in the area of phytopharmaceuticals, producing plant based medicines with proven efficacy, safety and quality. BIONORICA's Headquarters are located in Neumarkt i.d. Opf. (Germany/Bavaria). The company is family-owned since nearly 80 years.

A significant focus of BIONORICA's work is concentrated on R&D activities with annual capital investments of about 15% of the company's turnover. Although the centre of all R&D activities is in Neumarkt, BIONORICA has established further research institutes in Innsbruck (Austria) and Hong Kong.

In addition, BIONORICA has built a scientific network with multiple renowned institutions, organizations and scientists worldwide.

The *Bionorica Phytoneering Award* acknowledges outstanding research in the field of development and application of herbal medicinal products.

The purpose of the award is to motivate primarily young scientists (normally younger than 45 years of age) to perform research in phytomedicine focusing on the following areas:

- generally any new discovery and innovative application related to phytomedicine

- pharmacodynamics and pharmacokinetics of herbal medicinal products and their active principles
- clinical research in the areas of respiratory tract infections, inflammation, women's health, pain, oncology and metabolic syndrome
- safety and pharmacovigilance studies

Scientists or research groups of universities and other non-commercial scientific institutions are entitled to apply.

The Bionorica Phytoneering Award 2017 will be granted during the 65th International Congress and Annual Meeting of GA in Basel, Switzerland, 3–7 September 2017.

The award-winning scientific results will be presented during the congress in a lecture. The Bionorica Phytoneering Award is endowed with 10.000 €.

Scientific publications on a specific topic which have been published during the last three years can be considered. They must be submitted along with an accompanying document explaining the significance and relevance of the submitted publications in

the broader scientific context, a CV, and a list of publications.

All documents have to be submitted in electronic form (as email attachments) to: Prof. Dr. Matthias Hamburger, Institute of Pharmaceutical Biology, Department of Pharmaceutical Sciences, University of Basel, Klingelbergstraße 50, CH-4056 Basel, Switzerland, e-mail: matthias.hamburger@unibas.ch

Deadline for submissions is **28. February 2017**.

Prof. Dr. Matthias Hamburger
GA Vice-President
and Head of the Awards Committee

Awards and Honours during GA 2016 Annual Meeting in Copenhagen, Denmark

Egon-Stahl-Award in Bronze 2016 of the Society for Medicinal Plant and Natural Product Research (GA) to Dr. Gorawit Yusakul



Egon-Stahl Award 2016 in Bronze

On the occasion of his 60th birthday, Professor Egon Stahl, the inventor of TLC, donated a medal, a document and a monetary prize in order to recognize and promote young scientists working in the field of Pharmacognosy (Pharmaceutical Biology) and Analytical Phytochemistry. The bronze medal is given to young scholars up to the age of about thirty whose theses are of outstanding quality.

The winner of 2016 Bronze Award was Dr. **Gorawit Yusakul**, Thailand. Gorawit Yusakul obtained a BSc degree in Pharmacy from Khon Kaen University, Thailand, and a MSc degree in Pharmaceuticals from the same university. In 2014 he enrolled into the PhD programme at the Graduate School of Pharmaceutical Sciences, Kyushu University, Fukuoka, Japan, with the support of a Scholarship from the Japanese Government.

His research is aimed at the preparation of monoclonal and recombinant antibodies for their application in pharmaceutical sciences, in particular for quantification of relevant plant secondary metabolites. The most recent work involves the construction of single chain variable fragments and antigen binding fragment recombinant antibodies against daidzin and taxol. Mr Yusakul has published up to now 17 papers in international peer-reviewed journals.

Young Researchers' Workshop 2016: the 10th anniversary

The Young Researchers' Workshop (YRW) celebrated its 10th anniversary in Copenhagen. It was established in order to bring together young scientists, in particular PhD students, for the presentation and discussion of their work in a free and relaxed atmosphere, thus promoting presentation skills, scientific exchange and networking. In Copenhagen, this very successful concept was expanded by the introduction of a "meet the expert" lunch. Students and members of the GA working group Young Researchers enjoyed lunch in a cozy atmosphere and had lively discussions. The students were interested in the career paths and the research topics of the scientists and had many questions on the role of GA in this context. Vice versa, the scientists had the chance to collect ideas from the students for the further development of the workshop. This year's YRW was organized and chaired by Professor Alessandra Braca from the University of Pisa, Italy, and by Professor Jürg Gertsch from the University of Bern, Switzerland. As usual, the YRW started

with an impulse lecture given by an established scientist. This year, Professor Fabrizio Dal Piaz from the University of Salerno, Italy, talked about "Looking for plant bioactive compound target: uno, nessuno o centomila". His brilliant lecture sharpened the view of the audience on the importance and possibilities of target identification. From 42 submitted abstracts, twelve were chosen for oral presentation during the workshop. Almost 70 participants (a really high number) gathered in one of the lecture halls of the School of Pharmaceutical Sciences at the University of Copenhagen to listen to the presentations. All talks were of outstanding scientific quality and each Q&A session was extremely lively and interesting. There was no need to get the discussion started by the chairs, but it was fully run by the audience. The YRW ended with a wrap-up session and with a discussion on future perspectives. All participants highly appreciated the format of the YRW. Most importantly, also the awards were bestowed in this closing session. Due to the generous

and constant financial support of the company Bionorica SE (Neumarkt, Germany), we were able to award 2 prizes for the best presentations. Eric Jacobsson (Division of Pharmacognosy, University of Uppsala, Sweden) and Luke Robertson (Environmental Futures Research Institute, Griffith University, Australia) were awarded for their outstanding talk and scientific work with a prize money of 300 Euro, each. Moreover, they had the exciting opportunity to rerun their presentation during the main conference program in front of a much bigger audience. The proud awardees (picture) were honored in the opening ceremony of the congress. This year also the YRW Discovery Prize of 1000 Euro was introduced and Professor Jürg Gertsch explained the young researchers the criteria set by the board on how to win this prestigious new award: The research uncovers a finding that is intriguing and not just descriptive, and may thus stimulate further research. Based on the high quality of the presentations we are confident that next year in Basel the first YRW



The YRW team 2016 and the best presenters: From left: Professor Anna Rita Bilia, Professor Jürg Gertsch, Eric Jacobsson, Luke Robertson, Professor Alessandra Braca.

Discovery Prize will be awarded to at least one young scientist.

Thanks to the high scientific standard of each presented work, the very enthusiastic speakers and the active audience, the YRW 2016 was of great success. Also the newly introduced "meet the expert" lunch was well received and, thus, will be continued. The next YRW will take place in Basel on Sunday, September 3, 2017. We are very much looking forward to hearing about the latest research of highly talented young researchers!

Prof. Robert Fürst

Thieme Award 2016 for the Most Innovative *Planta Medica* Original Paper

Planta Medica

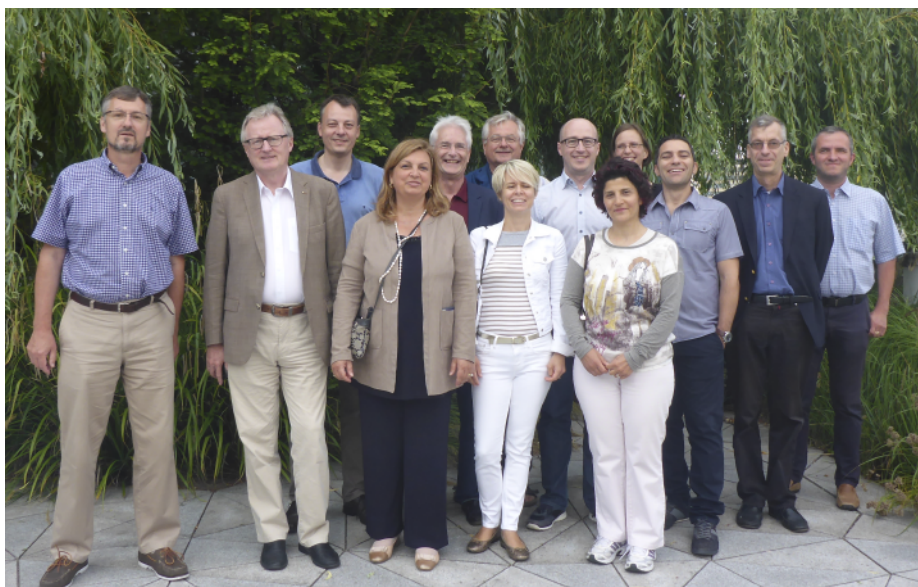
Journal of Medicinal Plant and Natural Product Research

Since 2013, Thieme publisher awards every year the most promising paper published in *Planta Medica* in the previous year. The decision of the jury – the Editors of the journal – is based on scientific quality and on the interest that the paper has met with

in the scientific community. The prize is awarded with 1.500 €. This year, the paper by Sturm et al., "*Similarity between Flavonoid Biosynthetic Enzymes and Flavonoid Protein Targets Captured by Three-Dimensional Computing Approach*", did win the

award. Professor Ron Quinn from Brisbane University, Australia, accepted the award on behalf of all authors during the opening ceremony of the Joint Natural Products Congress 2016 in Copenhagen, Denmark. Congratulations!

The administration of our Society at Work ...



The Executive Board and the Board of Directors during a long day discussion meeting on the future directions of the society the day before the annual GA meeting in Kopenhagen, Denmark.

Protocol of the GA Members Meeting 2016

The Members Meeting took place during the annual congress in Copenhagen on 25 July 2016 from 5.00 – 6.15 p.m. 51 GA members attended the meeting.

1. Approval of the Agenda

President Prof. A.R. Bilia welcomed all participants. The agenda, published in the GA Newsletter 1-2016, was unanimously approved. One additional topic (Report on the Foundation "Plants for Health") was added to the agenda (topic 7: Miscellaneous).

2. Approval of the Protocol of the Members Meeting 2015

The minutes of the previous Members Meeting on 25 Aug. 2015 in Budapest, published in the GA Newsletter 2-2015, were unanimously approved.

3. Annual reports

3.1. Report of the President Prof. A.R. Bilia

She was in continued exchange with Prof. A. Jäger and Prof. D. Staerk regarding the Joint Meeting 2016 in Copenhagen. She was in contact with sponsors, congress speakers, YRW and RA workshop participants, and awardees regarding the travel expenses. Together with V. Butterweck she prepared the "Review report" for handling the abstracts. She was involved in the revision and selection of abstracts for the Joint Meeting as well as in the development of the scientific programme. She organised the invitation to the lunch reception sponsored by Thieme during which the special issue dedicated to Prof. Kurt Hostettmann was presented.

She was a member of the award juries. Together with Dr. Benedek, she contributed to the agenda for the annual members meeting published in the NL, and she wrote the Message of the President. Together with the ExC members she revised the English text of GA website.

She sent a condolence letter to A. Nahrstedt's sons on behalf of GA, and she attended the commemoration ceremony in honour of Prof. A. Nahrstedt in Münster on 14 March 2016.

She met D. Guo for the organisation of the Annual Congress in Shanghai in 2018.

She was in contact with M. Hamburger for the organisation of Annual Congress 2017 in Basel and with H. Stuppner for the organisation of Annual Congress 2018 in Innsbruck.

She gave the welcome address during the Trinationaler Kongress für Phytotherapie of GPT, SMGP and ÖGPhyt in Bonn in June 2016.

She participated in the Phytopharm congress in July 2016 in St. Petersburg, Russia, where she gave a welcome address and a talk.

3.2. Reports of the Vice-Presidents

Report of Vice-President

Prof. M. Hamburger

He was coordinating until end of 2015 with Prof. A. Jäger the Joint Meeting from GA side. He was involved with reviewing abstracts, and also with assembling the short lecture program. As head of the Award Committee, he prepared the announcements and coordinated the review process of applications. As chair of the Organizing Committee for the 2017 Annual Congress in Basel, he coordinated preparations for the event.

Report of Vice-President

Prof. O. Kayser

He was involved in the preparation of the annual congress in Copenhagen, e.g. by reviewing abstracts. He coordinated the working groups "Communication" and "European Affairs".

3.3. Report of the Secretary

Dr. B. Benedek

She organised, attended and documented the ExC and BoD meetings during the last year.

She was in close contact with the organisers of the joint meeting in Copenhagen, and supported the local organising committee on behalf of GA.

She presented the members statistics: GA currently has 1191 active members (regular and student members: 1114, company members: 31, honorary members: 9, waived fees due to more than 40 years membership: 37). In addition, 92 new members have registered, but have not yet paid their fees (= preliminary members). The total number of members (active + preliminary) amounts to 1283 (2015: 1148, 2014: 1106, 2013: 1374, 2012: 1308). Two members have reached 40 years of membership in 2016 (B. Kopp, H. Scheffer).

She reported about the new membership software which allows a clear process improvement. Up to now there was a manual membership data entry with high manpower need. Now there is a straight-through-processing, as the online membership application is fully connected to the membership database (direct data transfer). This means a reduction in manpower need and total costs. As a next step a membership portal connected to the membership database is planned, meaning that members will be able to modify their personal profile, download of personal documents etc. With respect to communication circular mailings are now possible, even individualised by name. All members data are stored within the EU (Germany).

3.4. Report of the Treasurer

Dr. U. Reusner

She reported about the current financial situation of GA: The total assets of GA currently amount to 161,978 EUR (funds value: 31,530 EUR, cash: 130,448 EUR).

15,000 EUR of the funds value have to be reinvested, since one of the funds has expired. The Egon Stahl fund currently amounts to 57,491 EUR (funds value: 52,871 EUR, cash: 4,621 EUR). 1,500 EUR thereof will be needed for the ESA in Bronze.

She presented the budget report of 2016. The total revenues in 2016 were 78,010 EUR so far (status 07/2016). The total expenses in 2016 were 78,010 EUR so far (total: + 53,465 EUR, status 07/2016).

She reported about the membership software change from GRÜN to SEWOBE. The complete membership database was transferred from old to new software in December 2015. Last transfer errors (old to new database) and mistakes are currently being corrected. The transfer of accounting from old to new software is already finished. Invoices are generated automatically in the new software. Bank statements will be transferred directly to the new software, PayPal payments will be booked automatically (in preparation).

Planta Medica online subscriptions: 14 members have subscribed to PM online back to 1998, 21 members back to 1953.

3.5. Discharge of the Executive Council

The cash auditors Dr. B. Frank and Prof. E. Stahl-Biskup were not able to participate in the meeting. Therefore, the former president Prof. B. Kopp was asked to present the Reports of the Auditors. According to the reports the expenses and revenues were plausible and appropriate, and both auditors expressed their compliments for a good accounting and cost awareness.

Prof. Kopp therefore asked for the discharge of the ExC which was accepted unanimously by the whole assembly.

4. Report of the Editor-in-Chief of

Planta Medica Prof. V. Butterweck

Prof. Butterweck presented key figures and facts regarding Planta Medica and Planta Medica Letters.

The new editors are Alessandra Braca, Robert Fürst, Nigel Perry, Olivier Potterat, José Luis Rios and Judith Rollinger. René Prétôt is the new Managing Editor.

V. Butterweck showed the origin of the manuscripts submitted since 1 Jan. 2016 showing that PM is a truly international journal with authors from 60 countries from all over the world.

Since her start in 01/16 new instructions for authors and a checklist for authors were developed, and a Webinar/Lecture "How to publish" was organised.

She gave an overview about the most cited and most downloaded papers. She presented the new reviewing process. Compared to before, the turnaround by editors is considerably faster than before ("fast and fair"). Moreover, E-First publication was implemented: a paper goes online and is fully citable the minute it has been through production, independently of the print schedule.

The PM Best Paper Award is now in its 4th year and was awarded to R. Quinn et al. in 2016.

Three special issues are published in 2016: marine natural products (D. Tasdemir), saponins (M. Melzig, M.A. Lacaille-Dubois), nanotechnology (A.R. Bilia). One issue per year will be dedicated to an outstanding scientist in the field of natural product research for his/her lifetime achievements (2015: A. Nahrstedt †, 2016: K. Hostettmann).

Planta Medica Letters was relaunched by Thieme and is now called PM International Open. It will accept author initiated submissions as well as transfers from PM, letters and original papers that are not suitable for PM, will apply for listing in PubMed Central and WoS as soon as feasible, will continue to be associated with PM.

At the end of her report she encouraged all GA members to publish in Planta Medica ("a journal from members for members").

5. Report of the Working Groups

• Communication (chair: O. Kayser)
Members: B. Benedek, N. Fokialakis, A. Hensel, O. Kayser

Prof. Kayser reported that a Wikipedia entry about GA is planned both in German and English.

• Awards (chair: M. Hamburger)
Members: according to the rules of the single awards (see GA website)

Three awards were announced for 2016, namely the Egon-Stahl-Award in Bronze, the Dr. Willmar-Schwabe Research Scholarship, and the Dr. Willmar-Schwabe Award.

The ESA Bronze was given to Yorawit Yusakul, Thailand and Japan. Due to a poor response the WSA and the WS Research Scholarship for Young Scientists 2016 were not awarded in 2016.

• Young Researchers (chair: R. Fürst)
Members: H. Abdel-Aziz, C. Agyare, S. Apers, A. Braca, R. Fürst, J. Gertsch, E. Heiss.

Prof. R. Fürst presented the activities of the working groups, namely the travel grants and the organisation of the Young Researchers Workshop which was again very successful.

• European Affairs (chair: O. Kayser)
Members: R. Bauer, N. Fokialakis, O. Kayser, G. Meng, J. Rollinger, D. Cszupor

The Working Group decided to submit a COST grant application to establish a network on "New innovative analytical techniques for characterization of herbal medicinal medicines". The basic idea is to bring experts together for discussing modern techniques for metabolomics and genomics for extract characterization. The abstract should be submitted in December 2016.

• Africa Research Network
(chair: C. Agyare)
Members: M. Heinrich, A. Hensel, D. Tasdemir, C. Agyare.

Prof. Heinrich presented the activities of the working groups on behalf of Dr. C. Agyare. The basic idea of the network is to promote and improve collaboration among African GA members and their counterparts from the economically developed countries, especially from Europe.

• Congresses and Workshops
(chair: A.R. Bilia)
Members: B. Benedek, A.R. Bilia (chair), R. Fürst, M. Hamburger, O. Kayser

6. Future Congresses, Symposia and Workshops

6.1. Annual GA Congresses

- 2017: Basel, Switzerland (organiser: M. Hamburger)
M. Hamburger presented the status of the congress preparations, e.g. the location, the congress schedule, the scientific program and important deadlines for award applications (28 Feb. 2017) and abstract submissions (1 March 2017).
- 2018: Shanghai, China (organiser: D. Guo)
- 2019: Innsbruck, Austria (organiser: H. Stuppner)

6.2. Co-organised meetings

- 6th International Symposium Breeding Research on Medicinal and Aromatic Plants (BREEDMAP 6), June/July 2016, Quedlinburg, Germany
- Phytopharm 2016, July 2016, St. Petersburg, Russia
- Phytopharm 2017, July 2017, Graz, Austria

7. Miscellaneous

Prof. R. Bauer presented the activities of the foundation. The brochure has been printed, and the homepage has been finalised. The brochure is also available for download on the website. A press conference is planned in Dec. 2016.

During the congress in Copenhagen a research award has been announced (1,500 EUR, application deadline 15 Aug. 2016). Any financial support of the foundation is welcome.

Dr. Birgit Benedek
Neunkirchen am Brand, 21 Nov. 2016

Meeting Reports

64th Annual Meeting of GA and 9th Joint Natural Products Conference 2016

July 24–27, Copenhagen, Denmark

www.jnpc2016.dk

The 64th Annual Meeting of GA and 9th Joint Meeting of GA, ASP, AFERP, PSE, SIF & JSP was organized in Copenhagen, Denmark, July 24–28 2016. 1200 delegates attended the conference representing 74 countries. Most of delegates were from the USA, followed by South Korea and France, all three countries had more than 100 delegates.

The conference was preceded by a day with a Bioanalytical Symposium, and the workshops for Young Researchers and Regulatory Affairs. Besides the impulse lecture at the Young Researchers Workshop, 12 short lectures were given by young scientists.

During the three days of the conference, the gathered scientists immersed themselves in the science of medicinal plants

and natural products. The main topics of the congress were:

- Advances in natural products research spurred by new technological developments
- Sources of bioactive compounds
- Sustainable sources of bioactive natural products
- Natural products as preventive and curative medicine for humans and animals
- Production and regulatory aspects of herbal preparations

Many scientific contributions in these fields were presented. These included 7 plenary lectures, 14 keynote lectures, award lectures and 50 short lectures, as well as 890 posters being presented.

The conference dinner took place at the Restaurant Tolbodden (the old custom house), a rustic Nordic style place in the North Harbour of Copenhagen. We sailed from the conference center to the restaurant, sipping bobbles in the evening sun while getting a guided tour of the last 400 years of the history of Copenhagen. In the tradition of GA, there was a botanical excursion the day after the conference. The excursion went to Stevn's Cliff to see the special limestone vegetation, then to a lush temperate beech-wood forest, and finally the Viking-ship Museum at Roskilde Fjord was visited.

Prof. Dr. A. Jäger, Copenhagen



Workshop on Regulatory Affairs of Herbal Medicinal Products, July 24th 2016 in Copenhagen

On July 24th GA organized its traditional Regulatory Affairs Workshop with the topic "Characterization of herbal drugs and herbal drug preparations: Are there alternatives to single marker analysis?" hosted at the University of Copenhagen.

The characterization of herbal drugs and herbal drug preparations according to Ph.Eur. includes an assay of certain chemical constituents or a group of chemical constituents. However, most of these quantified constituents represent just analytical markers, since the constituents contributing to the therapeutic activity are unknown. Accordingly, the content of such a marker is not necessarily an indicator of quality. Therefore, the question arises whether the established concept of single marker analysis is really appropriate for the quality control of herbal drugs and herbal drug preparations. What are the alternatives? What would be the implications of any change of concept?

Three key note lectures provided a thought provoking core on needs and limits of actual analytical methods and techniques. Here, an excellent overview from industrial perspective was given by Dr. Frank Waimer, Schwabe GmbH, Germany, flanked by two talks from Dr. Reinhard Länger and Dr. Klaus Reh, representing drug regulating authorities in Austria (AGES) and Germany (BfArM), respectively. In the first lecture Dr. Waimer acknowledged the trend in analytics towards metabolomics and associated OMICs technologies, but asked the question, if these new techniques will provide

more information and discussed the important issue of GMP readiness and efficacy. "Why do we need complex methods for getting out what we already know?" was a central question of Dr. Waimer, addressing this fundamental issue to the representatives of drug regulating authorities and the audience. Both, Dr. Reh and Dr. Länger, respect fundamental criticism, but emphasize that modern analytical technologies may open new approaches to link analytical markers to pharmacological action. Dr. Länger explained in his lecture, that the actual content in herbal medicinal products is mostly irrelevant when it is linked to clinical efficacy. His provocative question "Do we measure the right thing?" reflects the urgent need to define in the best case a single biomarker with high confidence, or should we change to a pattern of markers and therefore to a new holistic concept for quality control and analytics. In the last lecture given by Dr. Reh a practical use was demanded. He warned to introduce it on short notice without standardized procedures and acceptance in pharmaceutical industry. "We have to respect industry interest and to consider high costs for both first investment and upcoming variations." He is aware about the chances of metabolomics and OMICs technologies, but in quality control they are still in its infancies regarding regulatory use and future validation is urgently required.

After delivering all lectures the discussion was opened to a scientific panel and attending audience was asked to participate.

To join the panel Prof. Dr. Rudolf Bauer, U Graz, Austria, and Dr. Paolo Morazzoni, In-idea S.p.A. R&D, Milano, Italy, were invited. In a very open and friendly atmosphere fundamental questions were discussed like, what is the risk to get analytics out of control by high data amount and therefore out of expectations. Having access to Big Data does not automatically give us relevant answers to important quality control questions. Prof. Dr. Bauer stressed that for complex herbal medicinal preparations like TCM we have to consider new analytical concepts to allow proper quality control. His "fit for purpose" assessment includes reduction and fitting of data based on required purposes like chemical stability and process validation for pharmaceutical production, but also to define clinical biomarkers to track and trace pharmacological action to in vivo compounds. According to Dr. Paolo Morazzoni is the evaluation of biosafety issues for production and risk assessment in industrial processes (e.g. pathogenicity, side effects, toxicity of non-natural products) another future field in herbal quality control where also predictive methods have chances to be established. But before implementing in any kind of guideline all stake holders must be aware that all have to do their homework like developing standards/recommendations for sampling, data format, calibration, and evaluation algorithms for peak detection, identification, as well quantification.

Prof. Dr. O. Kayser



The discussion podium for the regulatory Affairs Workshop 2016.



... and the auditorium ...

2nd Africa Research Network Meeting within the GA 2016 Conference in Copenhagen (26. July 2016)



Report on the African network workshop held on the 26th of July, 2016 in Copenhagen, Denmark

Researchers from Africa who are also members of GA met this afternoon to discuss the achievements, challenges and the way forward for the network.

About 40 participants mostly from African countries participated at this meeting and the network will be open to all other interested researchers linked with African countries. A. Hensel, D. Tasdemir and M. Heinrich represented the BoD. C. Agyare had to give his apologies.

At the meeting, members agreed that

- Overall there is an urgent need to consolidate research expertise in the various regions of Africa to enhance/facilitate effective research collaborations inside Africa as far as this is achievable within the GA-community.
- The Board Members present were asked to liaise with the BoD in order to develop some activities specifically targeted to

colleagues from and in African countries including workshops.

- training young African Scientist on writing skills for scientific communications.
- equip members in practical/technical aspects associated with analytical techniques and biological assays.
- This could be achieved by the GA supporting a regional or Africa-wide conference on medicinal plant and natural product research and by sending one or two speakers covering these topics in a workshop/symposium. Such conferences need to be identified by members of the network.
- Webinars of particular interest to researchers from Africa should be organized. The network members will send suggestions on potential topics of interest.
- The Board Members were asked to liaise with GA Board for a slot a series of short lectures on 'African Medicinal Plant and Natural Product Research' during next year's GA meeting in Basel, Switzerland

- A platform should be created to coordinate research activities of members. Link Below <https://afrrenet.slack.com>

Every participant/member will be invited to join this platform (Slack) to share ideas on the points raised above. On this slack there are different items where we can disseminate information among members for the efficient building of this network.

Andreas Hensel will try to establish a webpage within the GA website for the African Network and try to implement the data of the member in a closed area. This should be followed by a systematic integration of details on research of the participants to establish science-based profiles.

One of the next steps will be the initiation of webinars to actual research of the members and we will try to establish longer workshops for the participants. This could be arranged also as a kind of pre/or post-symposium at the Basel conference 2017.

GA-networking group on Medicinal Plants and Natural Products in Animal Healthcare and Veterinary Medicine at the 9th Joint Natural Products Conference



Copenhagen 24th–27th July 2016 Animal health day

On the third and last conference day of the 9th Joint Natural Products Conference an international consortium of reputable scientists gathered to present and discuss the important role of plants to improve the health of animals.

Michael Walkenhorst from the Research Institute of Organic Agriculture (FiBL, Switzerland) introduced the speakers from all over the world and guided through the session, which was followed from more than 150 interested participants. The key note speaker Michael A. Huffman from the Primate Research Institute of the Kyoto University in Japan gave fascinating insights how wild animals medicate themselves with natural products. As Huffman is mainly working with monkeys and apes, he found that the diet of some primate species contains up to 20 % herbs, seeds and fruits with no nutritional value but with antibacterial, antiviral, antiparasitic or immune-stimulating properties. Investigating

the self-medication of animals in the wild can reveal new curative agents for both human and animal health. Apart from primates many animals, including livestock and even insects show behaviour patterns to cure themselves by bioactive natural compounds.

María J. Groot from the Institute for Food Safety (RIKILT) of the Wageningen University and Research Centre in the Netherlands underlined the urgent need to reduce and avoid conventional antibiotics in animal husbandry especially due to ongoing development of resistant bacteria. A promising strategy for dairy cattle includes ideal husbandry conditions and management of the farm, the use of local breeds, a constant control of the milk quality and antibiotic residues and the use of medicinal plants in order to improve the animals' health and to avoid the application of antibiotics. When following this strategy, farmers will be rewarded financially, or penalised when deviating. At the moment Maria Groot is planning a platform to share knowledge about the beneficial effects of

herbs in veterinary medicine in order to inform farmers and veterinarians, because information about alternatives is an essential step on the way to reduce antibiotics. Taffese Mesfin from Ethiopia reported about a recent project where the veterinary practices of indigenous Ethiopian cattle farmers were documented, as their valuable experiences about medical plants are not written down until now. The local farmers have no access to conventional veterinary drugs, thus highly depend on medicinal plants to treat common diseases like mastitis, foot and mouth disease, trypanosomiasis as well as ecto- and endoparasites. A particular challenge of the project was the precise communication about the plant species, as the indigenous people had different and inconsistent names for them. Thus a lot of field research and specification was necessary. The last speaker was Punniarthy Natesan, a veterinary pharmacologist and ethnoveterinary specialist from the Tamil Nadu Veterinary and Animal Sciences University in India. He gave refreshing argu-



ments why plant-based drugs containing a mixture of compounds should be preferred over pure single substances by suggesting that mixed crude compounds are closer to nature, perform synergistic effects and thus can be absorbed better by biological systems than purified molecules. He also emphasized the extraordinary therapeutic effect of turmeric, which is an essential ingredient in most Indian ethnoveterinary drugs.

The short lectures were followed by the third meeting of the GA networking group on Medicinal Plants and Natural Products

in Animal Healthcare and Veterinary Medicine. About 30 persons participated in this meeting. The new web presence of the Network on the GA website and the new e-mail (ga-animalhealth@ga-online.org) for sharing the latest findings and to stay informed about upcoming meetings and projects was presented. Within the meeting some members of the networking group briefly showed their latest field of research and education. Maria Groot and Michael Walkenhorst asked for international partners to submit a proposal for an EU funded COST Action on medicinal

plants and natural products with gastro-intestinal and antimicrobial properties to reduce the use of antibiotics in livestock. COST Actions are bottom-up science and technology networks, open to researchers and stakeholders with duration of four years. They are active through a range of networking tools, such as workshops, conferences, training schools, short-term scientific missions (STSMs), and dissemination activities. Several participants expressed spontaneously their interest. Please send an e-mail to Maria Groot if you are interested in participating the proposal-writing-process.

In the afternoon during the poster session results of about 25 animal-orientated projects were presented as well. Michael Walkenhorst lead a spontaneous guided tour through the informative posters and every presenter could shortly illustrate his project to the animal interested community.

The GA networking group ended the day with a joint dinner in the charming city centre of Copenhagen.

The next meeting of the GA-animalhealth networking group will be held next year in Basel where the GA in cooperation with the Research Institute of Organic Agriculture and the Swiss Medicinal Society for Phytotherapy will organize an one day presymposium on medicinal plants and natural products in animal healthcare and veterinary medicine. Please save the date – it is Sunday the 3th of September 2017.

Julian Wirth

Next Conferences

65th Annual Meeting and International Congress of GA, Basel, Switzerland



The 65th Annual Meeting will be held in Basel, Switzerland, from 3rd to 7th September 2017. As chair of the organizing committee it is a pleasure to give you a brief preview on the congress and the program. The conference venue is at the *Congress Center Basel* which is centrally located. Basel being reasonably small, the congress venue can be easily reached from the hotels via public transportation, or by walking.

On Sunday 3rd September, the Young Researcher and Regulatory Affairs workshops will be held, and a Satellite Symposium on Veterinary Phytotherapy that will be co-organized by the Veterinary Medicines Group of SMGP and the Animal Health Network of GA. In the late afternoon of Sunday the traditional Get-Together Party will take place.

The main congress will start on Monday morning with the official opening and award ceremony. Main topics of the scientific program include *Bioactive Natural Products*, *Dermatology and Dermatocos-*

metics, *Functional Foods*, *Biosynthesis and Biotechnology*, *Sustainable Use of Natural Products*, *Natural Product Formulation and Nanotechnology*, *Analytical Studies and Natural Product Chemistry*, *Phytopharmacology*, and *Veterinary Phytomedicine*. Beyond these main topics, scientific contributions in any other area related to natural product research are welcome!

Distinguished speakers from academia and industry will deliver plenary lectures on some of the main topics of the congress. Also, we look forward to the plenary lectures that will be delivered by the awardees of the *Egon-Stahl Awards in Gold and Silver*, and the *Bionorica Phytoneering Award*.

Short lectures will be held in 3 parallel sessions. We are happy that we can accommodate for over 80 oral presentations.

Poster Presentations will be organized in 3 sessions in order to accommodate for the large number of contributions, and to leave enough time for discussions. The poster

sessions on Monday and Tuesday afternoon will be accompanied by food and drinks.

The Congress Dinner will be held in a beautiful historical location in downtown Basel, and post-congress excursions will take you to scenic areas in Central Switzerland.

Our congress website is going online in December, and we will update you there with more details.

On behalf of the Organizing Committee that comprises members from the University of Basel, Department of Pharmaceutical Sciences (Matthias Hamburger, Olivier Potterat, Eliane Garo) and from the University of Applied Sciences Northwestern Switzerland, School of Life Sciences (Veronika Butterweck, Georgios Imanidis, Götz Schlotterbeck), I invite you to the 65th Annual Meeting.

We all look forward to welcoming you in Basel!

Matthias Hamburger,
Chair of Organizing Committee

Obituary, Awards and Honours

German Science Foundation (DFG) supports Research Training Group on Natural Product Based Drug Discovery at the University of Düsseldorf (Germany)



The German Science Foundation (DFG) supports a new Research Training Group (RTG 2158) at the University of Düsseldorf that is devoted to drug discovery based on natural products. The title of the new RTG is „Natural Products and Natural Product Analogs against Therapy Resistant Tumors and Microorganisms: New Lead Structures and Modes of Action“. Funding is for 4.5 years and starts in October 2016. Total

funds that are allocated to the new RTG amount to 4.3 Million Euro. The RTG is composed of 12 research groups from the fields of Pharmacy, Microbiology, Tumor Biology, Organic Chemistry and Biochemistry. Prof. Dr. Peter Proksch from the Institute of Pharmaceutical Biology and Biotechnology of the University of Düsseldorf serves as the spokesperson of the RTG.



The spokesman of the Graduate School for natural products Prof. Dr. P. Proksch, University of Duesseldorf, Germany.

Prof. Dr. Peter Proksch (University of Düsseldorf, Germany) receives two Honorary Professorships from Research Institutions of the People's Republic of China

Prof. Dr. Peter Proksch (Institute of Pharmaceutical Biology and Biotechnology, University of Düsseldorf) received twice the title of an Honorary Professor from Research Institutions in the People's Republic of China. The first Honorary Professor-

ship was awarded to Prof. Proksch in April 2016 by the Three Gorges University in Yichang followed by a second Honorary Degree in June of this year awarded by the Chinese Academy of Tropical Agricultural Science in Haikou. Prof. Proksch was

awarded the two Honorary Titles for his academic work on bioactive natural products and for his long standing cooperation with Chinese Research Institutions.

Prof. Dr. Christian Agyare (Kwame Nkrumah University of Science and Technology, Ghana) receives the KNUST Excellence Award 2016

The KNUST Best Researcher Award 2016 from Kwame Nkrumah University of Science and Technology, Ghana was given to Dr. Christian Agyare for his scientific research on medicinal plants and natural products by the Chairman of University Council, Dr. Kwame Saara-Mensah, on 9th July 2016.

GA congratulates!



Prof. Dr. Christian Agyare (Kwame Nkrumah University of Science and Technology, Ghana): Winner of Young African Researchers Award 2016

Prof. Dr. Christian Agyare (Kwame Nkrumah University of Science and Technology Ghana) won the 2016 Young African Re-

searchers Award for his recent authenticity and quality of his scientific research in the files of health and pharmaceutical sci-

ences. The price is awarded by the Academy of Scientific Research and Technology, located in Cairo, Egypt

GA congratulates!

Prof. Dr. Gerhard Franz (University of Regensburg, Germany) retires from 20 years work as chairman of the TCM Working Party for the European Pharmacopoeia

Improvement of rationalized phytotherapy and pharmacognosy is not only done by state-of-the art lab work and clinical studies, but these findings and the advanced knowledge of modern pharmacognosy has also implemented into the field of legislation. Especially the continuous improvement and implementation of new monographs for herbal medicinal products in the relevant pharmacopoeias, based on the actual knowledge and with optimized analytical specifications is a great task. The implementation of new and actualized monographs into the European Pharmacopoeia helps many actors in the daily life, as e.g. pharmaceutical industry, pharmacists on all levels, but also for producers of plant material, extraction companies and governmental and industrial regulatory officers. Especially the implementation of actual and modern monographs for herbal materials from Traditional Chinese medicine into the European Pharmacopoeia was a tremendous work in the last 2 decades and it is the achievement of Prof. Dr. Gerhard Franz (University of Regensburg, Germany) that he acted very successfully for nearly over 20 years as chairman of the section 13B and the TCM working party within the European Pharmacopoeia. Implementation of nearly 60 new monographs is the result of this hard work, and GA and the whole "Medicinal Plant Community" gratulates to this tremendous and very effective work. After this long time Prof. Franz retires from this duty. GA congratulates to this great work and many thanks for all the efforts for rationalized and modern phytotherapy!

In November 2016 Gerhard Franz retired officially in Strasbourg from his activities for Ph. Eur. and at this occasion he delivered his farewell speech to a large auditorium as follows:

Gerhard Franz

(University of Regensburg, Germany)

It is time to say good-bye after almost 20 years of service for the Ph. Eur.!

I had many challenges in the past acting as Chair for two different groups of experts in the herbal drug/phytochemistry section: 13 B and the TCM WP.

My startup at the time was initiated and promoted by Dr. Schnädelbach, former Chair of the Ph. Eur. COM, who knew me well from my earlier activities as Chairman of the Phytochemistry group of the German Pharmacopoeia. This was still in the old days of the Germany Bundesgesundheitsamt in Berlin, where I had my first contacts with our EDQM first lady, Dr. Susanne Keitel, when I was a member of her nomination commission. Later on, Dr. Keitel and me moved to the newly opened BfArM in Bonn – she in high ranking positions and me still as Chair of the Pharmacognosy group of the DAB and a member of the former Commission E. 20 years ago Dr. Schnädelbach asked me, whether I would be willing to act as Chairman for the newly created Group of Experts 13 B of the Ph. Eur. I accepted his proposal and started to work with a very active group of colleagues from all over Europe, modernizing the Phytochemistry/Pharmacognosy Section of the Ph Eur. This happened at the time when the EDQM was still located in the former buildings in Strasbourg, Mainau. Many things were easier, no security and checking for explosives and bombs at the entrance gate in our luggage, we moved in and out, said 'hello' or 'bon jour' to our friends and the personnel and started work.

During this early period I had a very fruitful collaboration with the late Peter Castle with whom we inaugurated many things as for example the Extract Working Party with the result of establishing the first de-



tailed monograph on Herbal Extracts including the frame monograph with the newly created categories 'Standardized, Quantified and Other Extracts'; further 'Water for Extractions' and other topics which are common and useful for our actual Pharmacopoeia.

After having reached the final nomination period of 3 times 3 years working for 13B, again Peter Castle encouraged me to continue my activities at the EDQM. He proposed me as the Chair of the newly created TCM WP. This happened 9 years ago. In the following years we had a very intensive and productive time with excellent experts from many EU Member States. The actual status is more than 60 newly implemented TCM herbal drug Monographs for the Ph. Eur. Our work and scientific efforts had a very good global acceptance and I was invited in the past to give Plenary Lectures at many Conferences to report about problems, results and consequences of TCM for the European patient.

Several institutions in China became interested in our work and I was able to catalyze a fruitful collaboration with the Chinese State Administration of TCM (SATCM) resulting in an official Memorandum of Understanding signed between EDQM and the Chinese Natural Key Laboratory.

A further step in the fruitful collaboration China/Europe was the nomination of Prof. Guo De-an following a proposal of the German National Authorities.

Now my task as Chair of the CM WP is finished. A new chair has been elected and I hope that the activities of this TCM Working Party will continue and even improve in the future.

I am very grateful to the National Authorities of Germany namely the BfArM for continuous support and encouragement to make my efforts for the Ph. Eur. possible. I am very grateful for the long lasting cooperation with all the experts, colleagues and friends of both groups, 13B and the TCM WP.

I am very grateful to all the coworkers of the EDQM; I had the chance in these 18 years to work with two French ladies, with two Belgian ladies, with one German lady, with one Spanish gentleman and finally with Cristiana Sabatini, a most charming and efficient coworker. Without her help, assistance and organization talent, we would not have come this far in our efforts and final results!

Finally, I am very proud that today two of my former PhD students have been nominated as experts for both, Groups 13B

and the TCM WP. So the next generation of experts coming from my lab will be active in the future for the Ph. Eur.

Prof. Dr. G. Franz
November 2016

GA congratulates and thanks Professor Franz for his tremendous efforts!

Prof. A. Hensel, Münster

Recent thesis (2016) on Medicinal Plant Research



(Notices of Ph.D.- and M.Sc./diploma thesis to the editor are welcome any time!)

Ph.D. thesis (2016) Antiadhesive acetylated rhamnogalacturonans from immature fruits of *Abelmoschus esculentus* (L.). Moench against *Helicobacter pylori*. By: Christian Thöle Promotor: Prof. Dr. Andreas Hensel, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

Ph.D. thesis (2016) Anthelmintic activity of procyanidins from West African plants: From traditional medicine to phytochemistry and molecular investigations By: Verena Spiegler. Promotor: Prof. Dr. Andreas Hensel, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

Ph.D. thesis (2016) Activity profiling of Austrian red wine targeting cardiovascular diseases: A contribution to understand the "French Paradox" by Oliver Donath. Promotor: Prof. Gottfried Reznicek, Department of Pharmacognosy, University of Vienna, Austria.

Ph.D. thesis (2016) Pharmacological basis for medicinal use of Flaxseed (*Linum usitatissimum*) in inflammatory bowel disease By: Amber Hanif Palla. Promoter: Prof. Dr. Anwar-ul-Hassan Gilani, Department of Biological and Biomedical Sciences, Aga Khan University, Karachi, Pakistan.

Ph.D. thesis (2016) Plant extracts and natural products – Predictive structural and biodiversity-based analyses of uses, bioactivity, and research and development potential. By: Vafa Amirkia. Promotor: Michael Heinrich, UCL School of Pharmacy, London, U.K.

Ph.D. thesis (2016) Bioactive Secondary Metabolites from Medicinal Plants By: Rini Muharini. Promoter: Prof. Dr. Peter Proksch, Institute of Pharmaceutical Biology and Biotechnology, University of Düsseldorf, Germany.

Ph.D. thesis (2016) Isolation and Structure Elucidation of Secondary Metabolites from Fungi By: Yang Liu. Promoter: Prof. Dr. Peter Proksch, Institute of Pharmaceutical Biology and Biotechnology, University of Düsseldorf, Germany.

Ph.D. thesis (2016) Secondary Metabolites from Fungi: Natural Product Diversity, Structure Elucidation and Bioactivity By: Huiqin Chen. Promoter: Prof. Dr. Peter Proksch, Institute of Pharmaceutical Biology and Biotechnology, University of Düsseldorf, Germany.

Ph.D. thesis (2016) Secondary Metabolites from Fungi: Strategies of Activation of Silent Biosynthetic Pathways, Structure Elucidation and Bioactivity By: Sergi Herve Akone. Promoter: Prof. Dr. Peter Proksch, Institute of Pharmaceutical Biology and Biotechnology, University of Düsseldorf, Germany.

Dr. rer. nat. thesis (2016). In silico-Identifikation und in vitro-Evaluation natürlicher Inhibitoren diverser therapierelevanter Zielenzyme von humanpathogenen Eukaryoten der Gattungen Trypanosoma, Leishmania und Plasmodium. By: Fabian Christopher Herrmann; Promotor: Prof. Dr. T. J. Schmidt, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

Ph.D. thesis (2016) Enhanced Cholesterol Efflux from THP-1 Macrophages by Natural Products. By: Limei Wang. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Ph.D. thesis (2016) Modulation of the nitric oxide synthase system by selected natural products or their derivatives. By: Dieu Linh Nguyen. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Ph.D. thesis (2016) Metabolic and pharmacological profiling of three classical TCM formulations used for chronic inflammatory diseases with immune dysfunction. By Nikles Stefanie. Promoters: Univ.-Prof. Dr. Rudolf Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2016) Plant-derived modulators of antibiotic resistance. By Prasz Sandra. Promoters: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2016) Early ADMET profiling of anti-inflammatory alkaloids using validated LC-MS/MS methods. By Evelyn Andrea Jähne. Promotor: Prof. Dr. Matthias Hamburger, Pharmaceutical Biology, University of Basel, Switzerland.

Ph.D. thesis (2016) Pharmacokinetics and metabolism of CNS-targeted natural products. By: Volha Zabela. Promotor: Prof. Dr. Matthias Hamburger, Pharmaceutical Biology, University of Basel, Switzerland.

Ph.D. thesis (2016) Modulation of the nitric oxide synthase system by selected natural products or their derivatives. By: Dieu Linh Nguyen. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Ph.D. thesis (2016) Natural products and their impact on microRNA expression in activated vascular smooth muscle cells. By: Christoph Grojer. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

M. Sc. thesis (2016) Naturstoffe mit Hemmwirkung auf die Pteridinreduktase 1 von *Leishmania major* und *Trypanosoma brucei*. (Natural Products with inhibitory activity on the Pteridine Reductase 1 of *Leishmania major* and *Trypanosoma brucei*). By: Nirina Sivakumar; Promotor: Prof. Dr. Thomas J. Schmidt, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

M. Sc. thesis (2016) Mechanistische Untersuchungen zur Hemmung trypanosomaler Enzyme durch ausgewählte Naturstoffe. By: Alexandra Heithorst; Promotor: Prof. Dr. Thomas J. Schmidt, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

Diploma thesis (2016) Search for active plant extracts in cellular reporter gene models relevant for metabolic disease. By: Aehaab Almusallam. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Diploma thesis (2016) Naturstoffe und deren Derivate als Modulatoren des Farnesoid X Rezeptors. By: Alexandra Holzer. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Diploma thesis (2016) The effect of gallic acid derivatives on intracellular reactive oxygen species in endothelial EA.hy926 cells. By: Vanessa Obrecht. Promotor: Prof. Dr. Verena M. Dirsch, Department of Pharmacognosy, University of Vienna.

Master thesis (2016) Untersuchungen zu *Plantago coronopus* (Plantaginaceae) by Christina Gradwohl. Promotor: Prof. Sabine Glasl-Tazreiter, Department of Pharmacognosy, University of Vienna, Austria.

Master thesis (2016) Isolierung und Analytik von Inhaltsstoffen aus *Justicia secunda* (Acanthaceae) by Stefanie Brigganser. Promotor: Prof. Sabine Glasl-Tazreiter, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2016) Untersuchung phenolischer Inhaltsstoffe aus *Scrophularia lucida*. By: Edgar Sumetsberger; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2016) Testung von Flavonoiden im CCID-Assay. By: Christa Căcilia Stadlbauer; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Master thesis (2016) Andrographolide nanocarriers crossing the BEE and their evaluation through in vitro PAMPA test and in vivo study. By: Gaverini Giulia. Promotor: Prof. Dr. Maria Camilla Bergonzi, Department of Chemistry, University of Florence, Italy.

Master thesis (2016) Liposomes loaded with berberin: in vitro activity assays and ex vivo permeation through human skin. By Linda Giovannetti. Promotor: Prof. Dr. Anna Rita Bilia, Department of Chemistry, University of Florence, Italy.

Diploma thesis (2016) Studies on Extraction and Solubility of Silymarin. By Pulferer, Eva Naemi. Supervisor: Univ.-Prof. Dr. Rudolf Bauer, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Analysis of antimicrobial compounds in the symbiosis of *Acromyrmex octospinosus*. By Fladerer, Johannes-Paul. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Activity of β -Lactam Antibiotics in combination with β -Lactamase-Inhibitors against Cefotaxim-resistant *E. coli* from urine samples. By Kardeis, Heidi. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) RAMOX Rectal administration of amoxicillin for Paediatrics. By Krasser, Katharina. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Analyses of antimicrobial compounds in *Azorella rusticana*. By Riegelneegg Cornelia. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, University of Graz, Institute of Pharmaceutical Sciences, Austria.

Diploma thesis (2016) The efficacy of penicillin on group A streptococcus from the respiratory tract. By Schintler, Emilia-Christina. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, University of Graz, Institute of Pharmaceutical Sciences, Austria.

Diploma thesis (2016) Metabolism of phenolic glycosides in the gastrointestinal tract. By Tobisch, Kathrin. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, University of Graz, Institute of Pharmaceutical Sciences, Austria.

Diploma thesis (2016) Entwicklung einer Methode zur Untersuchung von potentiellen Efflux-Inhibitoren an Caco-2-Zellen. By Tropp, Christina. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Study of efflux-modulating substances in *Piper* sp. By Wasserbauer, Julia. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Ph.D. thesis (2016) Development of identification methods for new psychoactive compounds. By Weiß, Jennifer. Promotors: Ao.Univ.-Prof. Dr. Martin Schmid and Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Phytochemical investigations of *Rhodiola rosea*. By Weiß Sandra. Supervisor: Ao.Univ.-Prof. Dr. Franz Bucar, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Determination of the α -glucosidase inhibitory activity and phytochemical investigation of the water extract from *Caesalpinia coriaria* (Jacq.) Willd. Leaves. By Erken Eva. Supervisor: Ao.Univ.-Prof. Dr. Adelheid Brantner, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Determination of the α -glucosidase inhibitory activity and phytochemical investigation of the water extract from *Caesalpinia coriaria* (Jacq.) Willd. Leaves. By Erken Eva. Supervisor: Ao.Univ.-Prof. Dr. Adelheid Brantner, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Investigation of natural products with inhibitory effect on amyloid formation in vitro. By Gleissner Peter. Supervisor: Dr. Eva-Maria Pferschy-Wenzig, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Diploma thesis (2016) Isolation of biflavonoids and long-chain hydroxy fatty acids from *Lonicera hypoglauca* Miquel. By Trummer Nina. Supervisor: Dr. Eva-Maria Pferschy-Wenzig, Institute of Pharmaceutical Sciences, University of Graz, Austria.

Editorial remark

All contributions for the GA-Newsletter are welcome. Deadline for submission for the next edition is fixed to May 25th 2017. Please send all contributions to: **Prof. Dr. A. Hensel**, University of Münster, Institute for Pharmaceutical Biology and Phytochemistry, Corrensstrasse 48, D-48149 Münster, Germany; ahensel@uni-muenster.de