

Message from the President



Dear members,

during the meeting in Budapest, I was elected as the new president of GA and I am very honoured to serve GA for the next two years. I would like to thank the new board members because they have become promptly active in managing the growing tasks of GA activities. I hope that we can serve and develop our Society in an optimum way, thank you very much for your confidence.

The forthcoming 64th Annual Meeting of GA, will be held in Copenhagen, Denmark, July 24–27 as a joint meeting, the 9th Joint Natural Product Conference 2016 (JNPC2016) and GA is lead organization. This year the Japanese Society of Pharmacognosy (JSP) has joined the five “sister” societies: GA, the American Society of Pharmacognosy (ASP), the Association Francophone pour l’Enseignement et la Recherche en Pharmacognosie (AFERP), the Phytochemical Society of Europe (PSE), the Società Italiana di Fitochimica (SIF). I am convinced that this joint meeting will inspire other international societies aiming similar purposes to join us.

I am very grateful to Profs. Anna Jäger and Dan Staerk and the other colleagues of the Local Organizing Committee for hosting the event, many thanks for their efforts and enthusiasm!

The meeting will be a unique global summit of medicinal plants and natural products bringing together more than 1400 participants coming from worldwide, encouraging an exceptional inter-disciplinary exchanges and cooperation with other European and extra-European colleagues.

Even if GA organised the first joint meeting with ASP in Vienna, Austria, July 26–31 1970 and a second joint meeting in 1975, July 27–August 2, in Storrs, CT, the first Joint Natural Product Conference was held in Strasbourg, France, July 6–10, 1980, bringing together four international societies: ASP, GA, AFERP, and PSE. After that,

other joint meetings took places, in Chapel Hill, NC (1985), Bonn, Germany (1990), Halifax, Nova Scotia (1994), Amsterdam, The Netherlands (1999) and Phoenix, AZ (2004). SIF jointed the “sister” societies on occasion of the 7th Joint Natural Product Conference in Athens, Greece and the 8th Joint Natural Product Conference in New York (NY).

This year the scientific programme includes six plenary lectures by distinguished senior scientists, twelve keynote lectures, several awards lectures, 52 short talks on recent hot topics of natural product research. The poster sessions also provide opportunities for scientific discussions.

The annual Young Researcher Workshop will take places Sunday morning and it is opened to young members of all the joining societies to share their experiences. Sunday there will also be the well-established pre-conference workshop on Regulatory Affairs, and a pre-symposium on Advances in (Bio)Analytical Techniques Applied to Natural Products Research. Opening ceremony will take Sunday afternoon 5 pm, followed by the “get-together party”. Various social events like an Evening in the Botanical Gardens and a post-congress botanical excursion the day after the conference are organised.

During the opening session GA will give the Egon Stahl Award in Bronze, travel grants to graduate students and post docs, the Thieme Award 2016 for the “Most Innovative Planta Medica Original Paper”.

Finally, GA will officially present the GA Foundation “Plants for Health”. The aim of the foundation will be the initiation and start-up funding of innovative cooperation projects especially of outstanding young scientists or research groups.

GA donates diverse awards, the Egon Stahl-Award in Bronze, Silver and Gold, Bionorica Phytoentering Award, Dr. Willmar Schwabe Award and Dr. Willmar Schwabe Research Scholarship for Young Scientists. I have a special recommendation for ALL GA members to pay attention to the annual announcements and encouraging the participation of both GA members and non-members. Next year we will try to find new strategies to better circulate the announcements.

During the Annual Congress, the Members Meeting will be held. The agenda is included in this newsletter and I invite you all to participate in the Members Meeting!

This year GA was involved in three other co-organised successful and interesting congresses. The “Phytotherapie 2016” was organised by the Gesellschaft für Phytotherapie e.V. in Bonn, Germany, 2–4 June 2016, a joint meeting of German speaking societies, namely the Societies for Phytotherapy of Austria (ÖGPhyt), Switzerland (SMGP) and Germany (GPT). The 6th International Symposium “Breeding Research on Medicinal and

Aromatic Plants" (BREEDMAP 6) held in Quedlinburg, Germany, June 19–23, 2016. The 20th International Congress „Phyto-pharm 2016“ and courses “GxP in bio-medical research” will take place in St. Petersburg, Russia, July 11–14, 2016.

It is really sad news to hear that 6th January 2016 our honorary member Prof. em. Dr. rer. nat. Dres. h.c Adolf Nahrstedt passed away. The University of Münster, Germany organized on March 14th 2016 an academic ceremony to commemorate the scientific, academic and editorial work of Adolf Nahrstedt. I participated to the ceremony and I had the opportunity to express the sincere condolence of all GA family who have appreciated his continuous en-

agement for the goals of GA and his enormous efforts as editor in chief of *Planta Medica*. I would like to remind all of you that *Planta Medica* is our official scientific journal, I cordially invited all of you to submit your manuscript and contribute to the success of our journal. Also this year a special issue dedicated to the abstracts of the JNPC 2016 will be published. I extend my invitation to submit papers to *Planta Medica Letters*, an open access companion journal to *Planta Medica*, focused on the rapid publication of important new results in all fields of medicinal plant and natural product research.

Finally, I would like to thank Prof. Luc Pieters for his dedication to *Planta Medica*


as editor in chief and all the member of previous Editorial board, and I would like to express my warmest welcome to the new Editor-in-Chief Prof. Veronika Butterweck, the Editors Prof. Alessandra Braca, Prof. Robert Fürst, Prof. Nigel B. Perry, Prof. Olivier Potterat, Prof. Jose-Luis Rios, Prof. Judith Rollinger, the Editorial Office René Prétôt, the Advisory Board and the Honorary Advisory Board.

I hope to welcome many of you at the upcoming fascinating JNPC 2016!

Cordially,
Anna Rita Bilia, GA President

The Society informs

Notes to all GA members



Editorial remark

All contributions for the GA-Newsletter are welcome.

Deadline for submission is fixed to November 20th 2016.

Please send all contributions by e-mail:
Prof. Dr. A. Hensel
University of Münster,
Institute for Pharmaceutical
Biology and Phytochemistry,
Corrensstrasse 48,
D-48149 Münster, Germany
ahensel@uni-muenster.de



Deceased members

(to our knowledge)

Dr. Otto Isaac (Hanau, Germany)
passed away at
21st December 2015.
GA member since 1959.

Prof. Dr. rer. nat. Drs. H.c. Adolf Nahrstedt (Münster, Germany)
passed away at 07th January 2016.
GA member since 1972.

The Society will keep commemoration and offers its sincere condolence.

Notes from the Society

Some Data from the Membership Data Base

New GA members

Since November 2015 the following 59 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.

Siti Aisyah **Abd Ghafar**, Malaysia; Shimaa **Abdelgawad**, Egypt; Sergio **Acín**, Colombia; Dawood **Ahmed**, Pakistan; Khadiga **Ahmed**, United Arab Emirates; Abayomi **Ajayi**, Nigeria; Eman **Alam**, Egypt; Fuad **Al-Rimawi**, Israel; Giovanni **Appendino**, Italy; Zerren **Araman**, Turkey; Atanas **Atanasov**, Austria; Amina Benchenouf, Greece; Somika **Bhatnagar**, Singapur; Biljana **Blažeković**, Croatia; Bettina **Böhlen-**

dorf, Germany; Oana-Crina **Bujor**, Romania; Bin **Du**, Hong Kong; Marwa **Elbatany**, Egypt; Nora **Engels**, Austria; Sri **Fatmawati**, Indonesia; Débora Arruda **Frommenwiler**, Switzerland; Mosad **Ghareeb**, Egypt; Frederick Simon **Golec**, USA; Mohammad Hashem **Hashempur**, Iran; Christine **Hernandez**, Philippines; Fabian **Herrmann**, Germany; Hossein **Hojjat**, Iran; Emmanuel Oise **Ikpefan**, Nigeria; Ibrahim **Iliya**, Nigeria; Vincent **Imieje**, USA; Amit **Jaisi**, Bhutan; Evangelia **Karkoula**, Greece; Ronja **Kossack**, Germany; S.K. **Kumar**, India; Claudia **Lima**, Brazil; Fikile **Makhubu**, South Africa; Laurence **Marchcourt**, Switzerland; Barbara **Michalak**, Poland; Rasha **Mohamed**, United Arab

Emirates; Benjamin **Mutschlechner**, Austria; Mikhail **Nafiu**, Nigeria; José Lima **Netpo**, Brazil; Khumukcham **Non-galleima**, India; Anthony **Ojekale**, Nigeria; Philippe **Okusa**, Belgium; Özge **Özcinar**, Turkey; Adriana **Pabon**, Colombia; Tiphaine **Peresse**, France; Laure-Anne **Peyrat**, France; Silvia **Revoltella**, Austria; Terry **Roberts**, Great Britain; Pedram **Shokouh**, Denmark; Antonio Carlos **Siani**, Brazil; Nemanja **Stanković**, Serbia; Dino **Turalić**, Bosnia-Herzegovina; Kübra **Uzun**, Turkey; Anastasia **Ventouri**, Switzerland; Fadia **Youssef**, United Arab Emirates; Alexandra Georgiana **Zavoianu**, Great Britain.

Dr. Birgit Benedek, GA Secretary

Planta Medica and its new editorial board

Planta Medica, the official scientific journal of GA, is now organized by a new editorial board:

Editor-in-Chief

Veronika Butterweck, Muttentz, Switzerland

Editors

Alessandra Braca, Pisa, Italy
Robert Fürst, Frankfurt, Germany
Nigel B. Perry, Dunedin, New Zealand
Olivier Potterat, Basel, Switzerland
Jose-Luis Rios, Valencia, Spain
Judith Rollinger, Vienna, Austria

GA wishes all the best for the team and will be pleased for a continuous improvement of the journal in the next years!



Dr. Bernd Roether retired as longstanding treasurer of GA

Keeping the finances of GA on a perfect level, correct budgeting of all annual income and expenses, always helping GA members, executive councils and Board of Directors with valuable advices: this is Dr. Bernd Roether, treasurer of GA from 2008 to 2015. For January 1st, 2016 he handed over this duty to Dr. Ulrike Reusner, who was elected in 2015 during the members meeting as the new treasurer. GA thanks Bernd Roether for his valuable help, his immense activity for GA, his

friendliness and endless help in all aspects of GA! GA would be not at this stage of being the international society with a sound financial base if he would not have invested so much knowledge and time! Bernd Roether will continue his great work as treasurer for the GA foundation "Plants for Health".

Many thanks Bernd!
The Members of GA

Prof. Andreas Hensel, Nesletter-editor



Prof. Dr. Luc Pieters retired as long-standing editor in chief of *Planta Medica*

Publishing exciting science for the scientific community and for all GA members in *Planta Medica*, always hunting for excellent manuscripts, always teaching our young students how to publish a perfect manuscript, always in time, always friendly, always very competent and helpful: this is Prof. Luc Pieters, the long-standing editor in chief of *Planta Medica* from 2007 to 2015. Starting January 2016 Luc retired from this very time-consuming job, but he will be still responsible for the *Planta Med-*

ica Letters, the new open access journal of GA.

GA thanks Luc for his valuable help, his immense activity for GA, his friendliness and endless help in all aspects of science and *Planta Medica*!

Many thanks Luc!
The Members of GA

Prof. Andreas Hensel, Newsletter-editor



Obituary Prof. Dr. Götz Harnischfeger

It is really sad news to hear about the death of Prof. Dr. Götz Harnischfeger.

He passed away in his 77th year after heavily suffering for quite some time. We all, who knew him in the past as a wonderful colleague and friend will keep Götz in our memory.

Götz Harnischfeger studied Pharmacy at the University of Frankfurt, Germany and continued his academic studies at the State University of Florida, U.S.A. where he finally obtained his Ph.D. Post doc years followed back in Germany at the University of Göttingen. "Habilitation" was accomplished and he obtained the title as a "Privatdozent" for the subject *Biochemistry of Higher Plants*.

He then left Academia and took over management and research positions in the Pharmaceutical Industry, where his major efforts were the standardization of Phytomedicines based on the rapidly developing analytical methods for natural compounds. His target at this time was a rational application of herbal medicinal products for many therapeutic indications.

His long lasting experience in many sections of industrial pharmacy was the basis for important publications such as the well-known book: *"Stabilitätsprüfungen in der Pharmazie"*. Professor Harnischfeger was a very active member in many scientific national and international societies, such as the *"Gesellschaft Deutscher Chemiker"*, *"Deutsche Botanische Gesellschaft"* and last not least the GA *"Gesellschaft für Arzneipflanzenforschung"*. The internationalization of GA is at least due to his never ending activities to promote this society to a global acceptance and impact. He attended all the annual member meetings and his criticism was feared by many members and even some presidents of the GA.

Besides his heavy daily duties in his industry position he found the time to actively participate as an elected member for the *"Deutscher Arzneibuch Ausschuss Pharmazeutische Biologie"* from 1992 until 2005 and further as a member of the expert group Phytochemistry for the European Pharmacopoeia from 1989 until his retirement in 2004.



Everybody, who had contact with Götz during his long lasting active years was always impressed by his friendliness, his Harnischfeger typical smile and sense of humor: all this makes him unforgettable! We will miss Götz Harnischfeger!

Prof. Dr. G.Franz

In memoriam Prof. Dr. rer. nat. Drs. h.c Adolf Nahrstedt (1940–2016)

Prof. Dr. Drs. h.c. Adolf Nahrstedt, University of Muenster, Germany passed away at age 75 at the St. Franziskus Hospital in Muenster on January 7, 2016, after a long battle with prostate cancer.

Adolf Nahrstedt was born in Northeim/Harz, Lower Saxony, Germany, on August 9th, 1940. He studied Pharmacy and Food Chemistry at the University of Freiburg, Germany and received his PhD degree in 1971 from the same University. Shortly after his habilitation in 1976 he was appointed at the Technical University of Braunschweig as an Associate Professor. Since 1986 he has been a full Professor at the University of Muenster, Germany. Beyond his activities as academic teacher, Professor Nahrstedt accepted various appointments within the university administration as well as duties outside of academia. He served, among others, as Vice-Dean and elected Dean of the College of Chemistry and Pharmacy. He is a long-standing member of the Pharmacopoeia Commission of the BfArM, and a Board member of the German Society of Phytotherapy. He is an Honorary Member of the European Academy of Natural Medicine, a recipient of the Rudolf Fritz Weiss Award of the German Society of Phytotherapy, and of the Varro Tyler Award of the American Society of Pharmacognosy (ASP). He holds honorary doctorates from the Ovidius University in Constanta, Romania, and the University of Mahasarakham in Thailand.

Professor Nahrstedt's research areas, the biochemistry and physiology of secondary metabolites, in particular the cyanogenic glycosides, in plants and insects as well as phytochemistry of traditional herbal drugs resulted in a high increase in scientific knowledge on these subjects. He discovered many new structures of cyanogenic and non-cyanogenic nitrile glycosides from all over the plant kingdom and thoroughly investigated cyanogenic compounds in moths and butterflies.

Professor Nahrstedt is probably best known for his major contributions on St. John's wort and its active constituents. His data gave further evidence that accompanying substances of a plant extract contribute, through the interaction with active agents, to the effect of an herbal medicinal product. There have been several examples in the literature showing that such co-effectors improve not only the solubility but also the bioavailability of single compounds. Unfortunately, most investigations on this topic give few or no or just speculative information about the mechanism of interaction and, in particular, about the compounds involved. Prof. Nahrstedt's biggest achievement is that he could identify potential coeffectors in St. John's wort extracts. He demonstrated that the coeffectors procyanidin B2 and hyperoside have an influence on the biopharmaceutical properties of hypericin, one of the compounds which contribute to the antidepressant activities of St. John's wort. However, St. John's wort is just one of several research areas where Professor Nahrstedt has been successful over the years. Just to mention some other medicinal plants where he focused his research on are *Piper methysticum*, *Cimicifuga racemosa*, *Cistus spec.*, *Crataegus spec.*, *Harpagophytum procumbens*, *Hedera helix*, *Salix spec.*, *Cynara scolymus*, *Zingiber officinale*, *Juglans regia*, *Aesculus hippocastanum*, *Hamamelis virginiana*, *Chelidonium majus* or *Ruta graveolens*. He has published over 200 research and review articles and numerous book chapters. 50 PhD theses and 2 habilitations were finalized under his supervision.

Professor Nahrstedt has been a long-time member of The American Society of Pharmacognosy (ASP) as well as of The Society of Medicinal Plant and Natural Products Research (GA). GA in particular pays high tribute to Prof. Nahrstedt because of his permanent advices and substantial contributions to the GA advisory board as well



as to many substantial scientific questions and discussions in nearly all fields of phytotherapy and phytochemistry. His most important service to GA, however, were undeniably were his editorial activities for the official journal of GA, *Planta Medica*. Professor Nahrstedt was associated with the journal for more than 30 years, first as Co-Editor (1983–1992), later as Editor-in-Chief (1993–2004), and until his death, as Senior Editor (2005–2015). In recognition of his outstanding service the GA bestowed him in 2005 with an honorary membership.

Those who were fortunate enough to know Professor Nahrstedt will always respect and admire him for his incredible knowledge of and ability to teach pharmacognosy. Those who know Professor Nahrstedt personally have always appreciated his direct, gently teasing, but sympathetic personality. Science and teaching were Adolf Nahrstedt's major interests and many scientists all over the world learned pharmacognosy from his lectures and his books and many reprints. Professor Nahrstedt will be deeply missed in the scientific community, not only as a great colleague, but also as a true friend.

Prof. Veronika Butterweck

Academic Symposium for Prof. Nahrstedt

At March 14th 2016 a symposium for Adolf Nahrstedt was held at University of Münster. About 80 scientists and friends from all over the world attended the meeting, which had been organized by Prof. Dr. Andreas Hensel, University of Münster, Institute of Pharmaceutical Biology and Phytochemistry.



Prof. Hensel delivered a welcome address, pinpointing some personal impressions on his experience with Prof. Nahrstedt. The rector for research at University of Münster, Prof. Stephan Ludwig, and the dean of faculty of Chemistry and Pharmacy, Prof. Andreas Heuer, pinpointed the achievements of Adolf Nahrstedt for the university. The president of GA, Prof. Anna Rita Bilia, Italy, highlighted Nahrstedt's activities for GA, especially as editor in chief of *Planta Medica*. Prof. Dr. Otto Sticher, Switzerland, gave a detailed overview on Prof. Nahrstedt's scientific activities, while Prof. Dr. Veronika Butterweck, Switzerland, highlighted Nahrstedt's work from the view of a former coworker.

Dr. Matthias Lechtenberg and Dr. Frank Petereit, University of Münster, reported on their experiences and remembrance of Adolf Nahrstedt as the promotor of her both dissertations, and gave everyone from the audience the feeling that the "Doktorvater" was a really great personality and a good scientist, leading young people very efficiently into the exciting area of medicinal plant science research. After a few minutes of quite remembrance to Adolf the audience met for coffee and cake to memorize for a great scientist and a good friend.

Prof. Andreas Hensel

9th Joint Natural Products Conference 2016

July 24–27, Copenhagen, Denmark

www.jnpc2016.dk



The 9th International Joint Natural Products Conference JNPC2016 is rapidly approaching (July 24–28 in Copenhagen, Denmark), and with over 1,000 registered, it is shaping up to be the largest meeting of natural products researchers this year.

The Scientific Organizing Committee has assembled an exciting and diverse programme. Invited speakers and the titles of their presentations can be found on our website www.jnpc2016.dk, along with links to their biographical information. In addition to the invited lectures, over 1,200 abstracts have been submitted for either oral or poster presentations, covering an exceptional spectrum of natural products research.

Our venue is the Tivoli Congress Center located in central Copenhagen, in walking distance to the old part of the city and the many attractions found there.

On Sunday 24th July there will be pre-conference workshops, one for our young delegates (Young Researcher's Workshop) and a workshop on Regulatory Affairs. Further, there will be a pre-symposium on "Advances in (bio)analytical techniques applied to natural products research". The opening ceremony of the conference will take place Sunday afternoon, followed by the GA Award ceremony. Thereafter, the Get-together party will take place at the roof-garden of the conference center.

The formal scientific programme will begin on Monday morning, July 25. Each day of the conference will have plenary lectures, keynote lectures and three concurrent parallel sessions of short lectures covering various topics of interest to natural products researchers. In the afternoons there will be poster sessions. The final programme with all speakers can be downloaded from the conference homepage.

The social programme includes an Evening in the Copenhagen Botanical Garden; the conference dinner where we will sail to the venue; and the day after the conference we have an excursion to botanical habitats of Zealand (the island where Copenhagen is situated) ending at the Viking Ship Museum.

Registration is still open so please submit your application through the conference website (www.jnpc2016.dk) immediately if you plan on attending.

The Congress president
Prof. Dr. A. Jäger

Invitation to the Members Meeting 2016

During the 9th Joint Natural Products Conference and the 64th Annual Meeting of our Society which will take place in Copenhagen, Denmark, from 24 to 27 July 2016, a regular Members' Meeting will be held. It is scheduled for Monday, 25 July 2016, 5:00 to 6:00 p.m.

Location: Lumby Auditorium, Tivoli Hotel & Congress Center, Arni Magnussons Gade 2, 1577 Copenhagen V, Denmark.

This announcement in the Newsletter has to be considered as the official invitation to the Members' Meeting (in accordance with

the GA bylaws), as this Newsletter is sent out to all members of the Society.

Preliminary Agenda

1. Approval of the agenda
2. Approval of the minutes of the Members' Meeting held in Budapest on 27 Aug. 2015 (published in GA Newsletter 2-2015)
3. Annual reports
 - 3.1 Report of the President
 - 3.2 Reports of the Vice-Presidents
 - 3.3 Report of the Secretary
 - 3.4 Report of the Treasurer
 - 3.5 Report of the Auditors
- 3.5 Discharge of the Executive Council
4. Report of the Editor-in-Chief of *Planta Medica*
5. Report of the Working Groups
6. Future congresses, symposia and workshops
7. Miscellaneous

On behalf of the Executive Council
Prof. Anna Rita Bilia, GA President

GA-networking group on medicinal plants and natural products in animal healthcare and veterinary medicine will meet again in Budapest

The GA-networking group on medicinal plants and natural products for animal healthcare will meet during the Joint Natural Products Conference in Copenhagen. The respective scientific session will held on Wednesday 27.07.2016 from 10.45 – 12.00. The following talks are scheduled:

Michael A Huffman (Japan): „Animal self-medication: ethnoveterinary medicine without human cultural bias?”

3 short lectures “Empiricism meets science – recent developments in ethnoveterinary research”

Maria Groot (The Netherlands): “The urgent need for new approaches – medicinal plants as answers to challenges of recent veterinary medicine in the Netherlands”

Taffese Mesfin (Ethiopia): “Use of medicinal plants and natural products as part of indigenous veterinary practices of South Omo Agro-Pastoral Communities in Ethiopia”

Natesan Punniamurthi (India): “A decade of clinical research and applications of ethnoveterinary knowledge in India – the pragmatic way of facilitating medicinal plants to replace synthetics in animal health and production”



Following the talks a “over-lunch-time-network-meeting” is scheduled to discuss further activities. Please send us a short message if you would like to contribute ideas so that we can set up an agenda.

The animal health networking dinner will be held on Wednesday evening.

Looking forward to meeting you all in August in Copenhagen,

Anette van der Aa and
Michael Walkenhorst



Novel Cosmeceuticals And Food Supplements From Exploitation Of Aromatic Plants' By-Products

EXANDAS is the acronym of a research **European project** which aims to apply emerging and cutting edge technologies in the field of Natural Products in order to fully and efficiently exploit the therapeutic potential of medicinal and aromatic plants processing waste and by-products. The consortium consists of six academic and six SMEs partners, which under the coordination of **Dr. Nektarios Aligiannis**, Associate Professor at the Department of Pharmacognosy and Natural Products Chemistry (Faculty of Pharmacy, University of Athens), will join forces and exchange know-how through an extended secondments scheme to advance Research & Innovation:

- **Academic partners:** National and Kapodistrian University of Athens (GREECE), Bulgarian Academy of Sciences (BULGARIA), Université Paris Descartes (FRANCE), Centre de Biotechnologie de Sfax (TUNISIA), University Ibn Zohr (MOROCCO), Centre de Recherches en Analyses Physicochimiques (ALGERIA).
- **Non-academic partners:** Iasis Pharma (GREECE), Chios Mastic Growers Association (GREECE), Venus Roses Lab Solutions (BULGARIA), Galen-N (BULGARIA), VivaCell (GERMANY), Phycosource (FRANCE).

The duration of the project is four years and has a **total budget of 2.178.000 €**.

The scientific concept of **EXANDAS** involves **the exploitation of aromatic plants' by-products for the development of novel cosmeceuticals and food supplements**. The cornerstone of **EXANDAS** project is the development of novel processes based on eco-friendly technologies for the efficient extraction, purification and transformation of active ingredients, as well as the complete chemical characterization and biological evaluation of produced extracts and pure compounds that can be commercially exploited. Optimization and scaling up of these procedures, as well as formulation using emerging technologies will lead to the development of novel final products.

In more details, byproducts and wastes from the industrial exploitation of mastic gum, rose, mountain tea, lavender, geranium and sweet basil will be selected. Improved techniques such as ASE, CPC, MAE etc. will be used to isolate, purify, and structurally characterize the active constituents that will be further investigated with the aim to be exploited commercially. A broad spectrum of bioassays will be incorporated for the evaluation of antioxidant, anti-inflammatory, antimicrobial and anti-aging properties activity of all derived extracts and products.

Using the experience of the academic partners in phytochemistry and natural product chemistry, as well as the practical experience of the SMEs in large scale processing of plant material and development of innovative final products, transfer of scientific knowledge, best practices and know-how will take place. The abovementioned objectives will be implemented through an extended and balanced scheme of researchers' exchanges, in both directions and via a mutual scientific project developed on the needs and interests of both industrial and academic sectors, exploiting the existing complimentary expertise.

Overall, the implementation of **EXANDAS** aspires to develop a successful and sustainable international and intersectoral collaboration model, which will contribute to the innovation potential of Europe for the most effective exploitation of natural resources and the development of novel cosmeceuticals and food supplements.

ACKNOWLEDGMENT: This project has received funding from the European Union's H2020-MSCA-RISE-2015 under grant agreement No 691247.

Dr. Nikolas Fokialakis

Recent thesis (2015) on Medicinal Plant Research



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

Dr. rer. nat. thesis (2016) Scube2 regulated Sonic Hedgehog release and possible roles of proteoglycans in the process. By: Petra Jacobs; Promotor: Prof. Dr. A. Hensel, Institute of Pharmaceutical Biology and Phytochemistry, and PD Dr. Kay Grobe, Institute for Physiological Chemistry and Pathobiochemistry, University of Münster, Germany.

Dr. rer. nat. thesis (2016) The use of chemometric and chemoinformatic tools for identification and targeted isolation of compounds from Asteraceae with antiprotozoal activity. By: Mauro Nogueira da Silva; Promotor: Prof. Dr. T. J. Schmidt, Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Germany.

Ph.D. thesis (2016) Towards a platform organism for terpenoid production – in silico analysis of metabolic networks of potential hosts and in vivo validation. By: Evamaria Gruchattka, Promotor: Prof. Oliver Kayser, Technische Universität Dortmund, Germany.

Ph.D. thesis (2016) Establishment and validation of an immortalized in vitro human blood-brain barrier (BBB) model for drug permeability studies, and application to natural product derived leads. By: Daniela Elisabeth Eigenmann; Promotor: Prof. M. Hamburger, Department of Pharmaceutical Sciences, University of Basel, Switzerland.

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

Ph.D. thesis (2016) Design, optimisation and performance of nanocarriers for brain delivery of natural compounds. By: Clizia Guccione; Promotor: Prof. Anna Rita Bilia, Department of Chemistry, University of Florence, Italy.

Ph.D. thesis (2016) Characterization of new designer drugs by chromatographic and electrophoretic separation techniques. By: Taschwer Magdalena. Supervisors: Ao. Univ.-Prof. Dr. M. Schmid and Ao.Univ.-Prof. Dr. F. Bucar, University of Graz, Austria.

Ph.D. thesis (2015) Synthesis of new bicyclic and heterocyclic compounds with activity against protozoa. By: Mohsin, Noor ul Amin. Supervisors: Dr.rer.nat. W. Seebacher and Ao.Univ.-Prof. Dr. F. Bucar, University of Graz, Austria.

Master thesis (2015) Development of lipid nanocarriers for the delivery of the extract of *Vitex agnus-castus* and optimization of an analytical method for the characterization of the matrix. By: Elena Monteforte. Promotor: Prof. M.C. Bergonzi and Prof. A.R. Bilia, Department of Chemistry, University of Florence, Italy.

Master thesis (2016) Wound healing properties of different metabolites from three alpine plants tested in human keratinocytes. By: Nadine Schmidt; Promotor: Prof. V. Butterweck University of Applied Sciences Northwestern Switzerland; Prof and Prof. M. Hamburger, University of Basel, Switzerland.

Master thesis (2016) Nano-encapsulation of non flavonoidic polyphenolic compounds. By: Jessica Alderotti. Promotor: Prof. M.C. Bergonzi and Prof. A.R. Bilia, Department of Chemistry, University of Florence, Italy.

Master thesis (2016) *Jatropha curcas* L: an interesting plant with numerous functions. By: Jessica Alderotti. Promotor: Prof. Laura Maleci, Department of Biology and Prof. A.R. Bilia, Department of Chemistry, University of Florence, Italy.

Master 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) Zum Phenolmuster von *Scrophularia lucida* L. By: Anna-Maria Spitznagl; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2016) Aktivität verschiedener Flavonoide im CCID-Assay. By: Claudia Smöch; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2016) Einfluss von Valproat zur Induktion von Sekundärstoffen in *Actinoalloteichus hymeniacidonis*. By: Lukas Danhel; Promotor: Prof. L. Krenn, Department of Pharmacognosy, University of Vienna, Austria.

Diploma thesis (2016) Comparison of essential oils of chamomile and mayweed species. By: Gärtner-Horvath, Michelle; Promotor: Prof. R. Chizzola, Institute of animal nutrition and functional plant compounds, University of Veterinary Medicine Vienna, Austria.

Diploma thesis (2016) Analyses of chamomile and marigold in different herbal medicinal products and nutraceuticals. By: Bozic, Ana; Promotor: Prof. R. Chizzola, Institute of animal nutrition and functional plant compounds, University of Veterinary Medicine Vienna, Austria.

Diploma thesis (2016) Application and relevance of herbal medicinal products for therapy of the respiratory tract in horses in German speaking Middle Europe through the ages. By: Wohlgenannt, Isabelle; Promotor: I. Hahn-Ramssl, Institute of animal nutrition and functional plant compounds, University of Veterinary Medicine Vienna, Austria.

Diploma thesis (2015) Qualitative and quantitative analysis of various *Arnebia euchroma* and *Lithospermum erythrorhizon* samples by TLC and HPLC. By: Durchschein Christin. Supervisors: Univ.-Prof. Dr. R. Bauer and Dr. rer. nat. N. Kretschmer, University of Graz, Austria.

Diploma thesis (2015) Validation of a high-performance liquid chromatography (HPLC) method for the simultaneous determination and quantification of two bioactive compounds of *Pollen Typhae*. By: Gschwandtner Stephanie Veronika. Supervisor: Univ.-Prof. Dr. R. Bauer, University of Graz, Austria.

Diploma thesis (2015) Extraction of plant constituents with ionic liquids. By: Huber, Julia Katharina. Supervisor: Univ.-Prof. Dr. R. Bauer, University of Graz, Austria.

Diploma thesis (2015) Extraction of herbal drugs with ionic liquids. By: Sackl Katharina. Supervisor: Univ.-Prof. Dr. R. Bauer, University of Graz, Austria.

Diploma thesis (2015) Herbal natural substances having an effect on bacterial biofilms. Supervisor: Ao.Univ.-Prof. Dr. F. Bucar, University of Graz, Austria.

Diploma thesis (2015) Determination of α -glucosidase inhibitory activity and phytochemical investigation of *Bauhinia malabarica*. Ao. Univ.-Prof. Dr. A. Brantner, University of Graz, Austria.

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Diploma thesis (2016) Validation of a high performance liquid chromatographic method for the simultaneous determination and quantification of three bioactive compounds in *Radix Achyranthis Bidentatae*. By: Solnier Julia Sandra. Supervisor: Univ.-Prof. Dr. R. Bauer, University of Graz, Austria.

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Diploma thesis (2016) Investigation of antibiotic resistance of modulating substances from Piper species. By: Uyar Ebru. Supervisor: Ao.Univ.-Prof. Dr. F. Bucar, University of Graz, Austria.

Editorial remark

All contributions for the GA-Newsletter are welcome. Deadline for submission for the next edition is fixed to November 20th 2016. 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