

CURRICULUM VITAE

DR. SOPHIE STEINHAGEN

PERSONAL DETAILS

Name: Dr. Sophie Steinhagen
Institute address: Göteborgs Universitet
Sven Lovén centrum för marina vetenskaper
Hättebacksvägen 7
45296 Strömstad, Sweden
E-Mail: sophie.steinhagen@gu.se



EDUCATION

Jan 2019 – now **UNIVERSITY OF GOTHENBURG (SWEDEN)**
PostDoc
Research areas: My main research focuses on the taxonomy and ecology of green seaweeds. Currently I am developing novel strains for the cultivation of valuable green algal species within the genus *Ulva* that can contribute as ecologically friendly future substitute materials. Investigations on highly productive algae are carried out by a combination of morphological and molecular approaches.

July 2014 – Dez 2018 **GEOMAR HELMHOLTZ CENTRE FOR OCEAN RESEARCH KIEL (GERMANY)**
PhD Student
Supervisors: PD Dr. habil. Florian Weinberger, Dr. Thomas Wichard & Prof. Dr. Ute Hentschel-Humeida
Thesis title: „A molecular survey of *Ulva sensu lato* on German Baltic- and North Sea coasts: A revision of the species inventory reveals their distribution and contributes new taxonomic insights“
Final grade: 1,0 and the title: Doctor rerum naturalicum

Oct 2013 – July 2014 **JUSTUS-LIEBIG-UNIVERSITY GIEßEN (GERMANY)**
Master of Science – Biology, Final grade: 1.0
Major Subjects: Botany, Plant Ecology, Marine Biology
Thesis: “Transmission Electron Microscopical Studies of *Cryptochlora perforans* (Chlorarachniophyta)”

Oct 2009 – Aug 2013 **JUSTUS-LIEBIG-UNIVERSITY GIEßEN (GERMANY)**
Bachelor of Science – Biology
Major Subjects: Botany, Plant Ecology
Thesis: “Comparative microscopical studies in some amoeboid algae of Ochrophyta and Chlorarachniophyta”

ADDITIONAL PRACTICAL EXPERIENCE

Apr 2017- Mai 2017 **RESEARCH RESIDENCE FOR STUDYING CROSS-KINGDOM INTERACTIONS BETWEEN BACTERIA & MACROALGAE , RESEARCH GROUP CHEMICAL ECOLOGY OF DR. THOMAS WICHARD, JENA (GERMANY)**
Various aspects of macroalgae-bacteria interactions including chemical ecology, evolutionary ecology, symbiosis and analytical tools were studied. Experiments on bacterial secondary metabolites influencing thallus morphologies in macroalgae were conducted. Interbreeding experiments of species of the genus *Ulva* were performed.

Mar 2017 **TAXONOMIC RESEARCH RESIDENCE FUNDED BY SYNTHESIS AT NATURHISTORISKA RIKSMUSEET, SUPERVISOR: PROF. DR. ARNE A. ANDERBERG, STOCKHOLM (SWEDEN)**
The European Union-funded Integrated Activities grant was used to visit the macroalgae

collection in Stockholm to compare recent macroalgae inventories with historical vouchers. The historical specimens were morphologically and genetically examined to identify recent invasive species in northern Europe within the order Ulvales.

- Sep 2016 **BLACK FOREST SUMMER SCHOOL, NEXT GENERATION SEQUENCING FOR PHYLOGENETICS (GERMANY)**
Interactive summer school on bioinformatics for Next Generation Sequencing. Containing hands-on workshops for short read mapping, differential expression analyses, Variant (SNP) calling, NGS data processing and deriving phylogenies of own datasets
- Febr 2013 – Apr 2013 **GOLFO DULCE LODGE, PLAYA SAN JOSECITO (COSTA RICA)**
Internship
Spectrum of subjects: Conservation and registration of plant and animal diversity in the tropical rainforest and the contiguous mangrove forest of the Golfo Dulce area, data recording of wildcats, implementation of Jungle Hikes and Mangrove Tours with visiting scientists and guests, maintenance of the natural garden sector of the Lodge
- Sep 2012 – Oct 2012 **ALFRED WEGENER INSTITUTE HELMHOLTZ-CENTRE FOR POLAR AND MARINE RESEARCH, BREMERHAVEN (GERMANY)**
Internship
Spectrum of subjects: Lab based study with experiments on the circadian zoospore release of *Laminaria digitata*, descriptive microscopical studies on zoospores and gametophytes of brown algae, graphical preparation of collected field data (MS Office), intense training in culture techniques of multicellular algae, Collection of fresh algae-material in field (Helgoland, Germany)

ACADEMIC HONORS AND AWARDS

- Sept 2017 **BEST POSTER AWARD**
Awarded at the Botanical Congress 2017 for the paper on: "Conspicuity of *Ulva compressa* and *Ulva mutabilis* (Ulvales, Chlorophyta): model organism meets invasive seaweed"
- Mar 2016 **ERNST-GEORG-PRINGSHEIM-AWARD**
For an outstanding PhD thesis
Awarded by the Phycology Section of the German Botanical Society
Subject: "Genetic Survey of Ulvales in Northern Germany reveals diversity and introduced species"
- Jul 2014 **AWARD FOR THE PROMOTION OF YOUNG RESEARCHERS**
For the best master thesis in Plant Sciences
Awarded by the German Botanical Society
Subject: "Ultrastructure of cells of *Cryptochlora perforans* (Chlorarachniophyta)"
- Jul 2014 **AWARD OF THE FACULTY OF BIOLOGY AND CHEMISTRY OF THE JUSTUS-LIEBIG-UNIVERSITY GIEßEN**
For accomplishing the degree Master of Science with distinction (mark: 1,0/ equals A+)
Awarded by the Faculty of Biology and Chemistry of the Justus-Liebig-University Gießen

RECENT PUBLICATIONS

- Steinhagen, S.,** Karez R., Weinberger, F. (2019). Cryptic, alien, and lost species: Molecular diversity of *Ulva sensu lato* along the German coasts of the North and Baltic Seas. Accepted at *European Journal of Phycology*.
- Steinhagen, S.,** Barco, A., Wichard, T. & Weinberger, F. (2019), Conspecificity of the model organism *Ulva mutabilis* and *Ulva compressa* (Ulvophyceae, Chlorophyta). *Journal of Phycology*, 55: 25-36. doi:10.1111/jpy.12804
- Steinhagen, S.,** Karez, R. & Weinberger, F. (2019) Molecular analysis of *Ulva compressa* (Chlorophyta, Ulvales) reveals its morphological plasticity, distribution and potential invasiveness on German North Sea and Baltic Sea coasts. *European Journal of Phycology*, 54:1, 102-114, DOI: 10.1080/09670262.2018.1513167

Steinhagen, S., Karez, R. & Weinberger, F. (2018). Surveying seaweeds from the Ulvales and Fucales in the world's most frequently used artificial waterway, the Kiel Canal. *Botanica Marina*, 62(1), pp. 51-61. doi:10.1515/bot-2018-0020

Weinberger, F., **Steinhagen, S.**, Afanasyev, D. & Karez, R. (2018). New records from the southern North Sea and first records from the Baltic Sea of *Kornmannia leptoderma*. *Botanica Marina*, 62(1), pp. 63-73. doi:10.1515/bot-2018-0019

Afanasyev, D., Kamnev, A., Sushkova, E., **Steinhagen, S.** (2016). A field guide to *Ulva* species found in the Black, Azov, Caspian Seas and Eastern Baltic/ Edited by Prof. I.P. Yermakov, Publishing house Pero, Moscow, Russia.

Steinhagen, S. & Weinberger, F. (2016). *Ulva* und verwandte Grünalgen an Schleswig-Holsteins Küsten – Eine Revision des Arteninventars. Veröffentlichungen des Landesamtes für Landwirtschaft, Umwelt und ländliche Räume Schleswig-Holstein. Vergabenummern: 0608.451410; 0608.451412.

SELECTED PRESENTATIONS AT CONFERENCES

Steinhagen, S., Weinberger, F., Wichard, T., Karez, R. (2018) "Conspecificity of the model organism *Ulva mutabilis* and the potential nuisance algae *Ulva compressa* (Ulvophyceae, Chlorophyta)", Oral presentation: 17th Conference of the Section Phycology (DBG), Berchtesgaden, Germany

Steinhagen, S., Weinberger, F., Wichard, T., Karez, R. (2017) "Conspecificity of an invasive ecotype of *Ulva compressa* from the SW Baltic with the model organism *Ulva mutabilis*", Oral presentation: 11th International Phycological Congress, Stettin, Poland

Steinhagen, S., Weinberger, F., Wichard, T., Karez, R. (2016) "The many faces of *Ulva compressa*", Oral presentation: 51st European Marine Biology Symposium, Rhodes, Greece

Steinhagen, S., Weinberger, F., Karez, R. (2016) "Genetic Survey of Ulvales in Northern Germany reveals diversity and introduced species", Oral presentation: 16th Scientific Conference of the Phycological Section of the German Botanical Society, Leipzig, Germany

Steinhagen, S., Weinberger, F., Barco A., Wichard, T., Karez, R. (2016) "Detection and identification of rare and invasive Ulvales by different molecular and morphological approaches", Poster presentation: Black Forest Summer School.

Steinhagen, S., Weinberger, F., Karez, R. (2015) "Ulvales on German Baltic and North Sea coasts: About cryptic, alien & lost species", Oral presentation: 6th European Phycological Congress, London, United Kingdom

Steinhagen, S., Weinberger, F., Karez, R. (2015) "A revision on the species inventory of Ulvales in Northern Germany", Poster presentation: 50th European Marine Biology Symposium, Helgoland, Germany

REFERENCES

PD Dr. habil. Florian Weinberger

GEOMAR Helmholtz Centre for
Ocean Research, Kiel
Düsternbrookerweg, 20
24105 Kiel
Germany

Phone: +49 431 600-4516

Prof. Dr. Martin Wahl

GEOMAR Helmholtz Centre for
Ocean Research, Kiel
Düsternbrookerweg, 20
24105 Kiel
Germany

Phone: +49 431 600-4500