

WALTER AND ANDRÉE DE NOTTBECK FOUNDATION

Annual Report 2021

The Walter and Andrée de Nottbeck Foundation, established in 1970, has been active for 51 years. Year 2021 was the second year of Covid-19 pandemic. Some research activities were impeded by delays in tasks carried out using external services, however, all things considered the research could be conducted very nearly as planned. Due to the continued restrictions in travel and public gatherings, two international meetings planned for 2021 at Tvärminne Zoological Station had to be cancelled.

The Foundation's Board of Directors consisted of D.Sc. (Tech.) h.c. **Ole Johansson** as the chairman, partner at Hannes Snellman Attorneys Ltd **Henrik Mattson** as the vice chairman, and as other members Group CEO **Alexander Bargum**, rector at the University of Helsinki, prof. **Jari Niemelä**, Ph.D. h.c. **Carola Teir**, and environment councillor at Finnish Ministry of the Environment, professor of practice at the Åbo Akademi University **Maria Laamanen**.

The Foundation's scientific committee was led by Ph.D. h.c. **Carola Teir** as a chairperson. The other scientific experts consisted of two members from the Stockholm University, Sweden, prof. emer. **Ragnar Elmgren** and prof. **Christoph Humborg**, and from Finland environment counsellor **Maria Laamanen** and prof. **Veijo Jormalainen** from University of Turku. The main task of the expert group is to evaluate the grant applications and together with the board of directors coordinate the foundations scientific policy.

The Foundation's Board of Directors held four meetings together with the Scientific Committee: on February 16th using distant contact, on May 10th by email, on June 2nd at Tvärminne Zoological Station and on November 2nd in Helsinki. The Foundation's annual meeting was held on June 2nd in Tvärminne. The Scientific Committee had grant evaluation meetings on May 5th, and on October 27th 2021.

RESEARCH IN 2021

The principal aim of the research supported by the Foundation is to investigate the function and the changes in the Baltic Sea ecosystem. The Foundation is funding the professor in Baltic Sea Research **Alf Norkko** jointly with the University of Helsinki. In addition, the Foundation alone funds a tenure track professor, PhD **Aleksandra Lewandowska**. Both professors work at the Tvärminne Zoological Station.

In 2021, scholarships were granted to two strategic investments, one of which supported a senior researcher and the other five new PhD students to start their studies during the autumn. The Foundation also financed five research projects, five postdoctoral researchers, eight Ph.D. students who had started their research earlier, as well as seven M.Sc. students. Funds were reserved for two international meetings to be held in Tvärminne, but they were cancelled due to the pandemic. The Foundation paid for some research related costs at the Tvärminne Zoological Station like laboratory costs, boating as well as travel to and lodging at the research station. These costs were mostly incorporated in the other costs of the projects.

The grants realized are listed below.

1. Strategic investments, total sum 105 119 €

1.1 Norkko Alf: Carbon dynamics across coastal seascapes – strengthening the strategic Baltic Bridge partnership between HU and SU (55 379 €). Dr. **Florian Roth**, has been working as a joint post doc in this strategic partnership.

1.2 Norkko Alf: Initiating a Centre for Coastal Ecosystems and Climate Change Research at Tvärminne Zoological Station, University of Helsinki (total costs 49 740 €).

Five PhD students, **Märta Brunberg**, **Daniel Donald**, **Roel Lammerant**, **Eva Rohlfer** and **Catharina Uth**, started their four-year study periods in the project CoastClim in August-September 2021.

2. Research projects, total sum for other research costs **51 921 €**

2.1 Asmala Eero: Systematic assessment of salt-induced flocculation of riverine organic carbon (2 635 €).

2.2 Lewandowska Aleksandra: Resource competitive ability of marine phytoplankton along a salinity gradient and the consequences for stoichiometric variation in the sea (6 055€).

2.3 Norkko Joanna: Role of episodic events for biodiversity and ecosystem functioning in coastal waters (28 515 €).

2.4 Spilling Kristian: Asking the microbes: What do you do with the excess Phosphorus? (10 870 €).

2.5 Westerbom Mats: Causes of change in key habitats in the Tvärminne archipelago: A research project on spatial and temporal dynamics among Baltic Sea character species (3 846 €).

3. Postdoctoral grants, total sum **100 793 €** including 62 100 € for personal grants and 38 693€ for other costs.

3.1 Gladstone-Gallagher Rebecca: Assessing the role of biodiversity in maintaining coastal ecosystem health in the Anthropocene (other costs 2 976 €).

3.2 Hellemann Dana: Elucidating seasonal substrate limitation of benthic nitrate reduction in the coastal Baltic Sea (postdoc grant 12 months, 27 600 € other costs 13 480 €).

3.3 Kauppi Laura: Chasing a moving target: From wriggling worms in the warming mud to ecosystem-level effects and management of our valuable seas (other costs 8 723 €).

3.4 Lienart Camilla: Exploring the trophic status of a key species, the Baltic blue mussel, in a rapidly changing ecosystem using stable isotopes (postdoc grant 12 months, 27 600 € other costs 13 514 €).

3.5 Takolander Antti: Assessing seasonal ecophysiology and geographic distribution shifts of foundational macroalga *Fucus vesiculosus* (postdoc grant 6 900 €).

4. Work on Doctoral theses, total sum **130 236 €** including 124 800 € for personal grants and 5 436 € for other expenses.

4.1 Norman Göbeler – The role of episodic events for biodiversity and ecosystem functioning in coastal waters (12 months' grant, 23 400 €).

4.2 Hermansson Ida: Living in the danger zone: impact of increased predation on the endangered eider (6 months' grant, 11 700 € other costs 1903 €).

4.3 Tuomas Kahma – The effects of increasing accumulations of algal detritus on the fate of organic carbon in shallow coastal habitats from the Baltic Sea (a month's grant, 1 950 €).

4.4 Pinja Näkki – The fate and impacts of microplastics in seafloor habitats (2 months' grant, 3 900 € other expenses 1 176 €).

4.5 Iris Orizar – Resource competitive ability of marine phytoplankton along a salinity gradient and the consequences for stoichiometric variation in the sea (12 months' grant, 23 400 € other expenses 982 €).

4.6 Roxana Preston – The origin and regeneration of free-living populations of *Fucus vesiculosus* in the northern Baltic Sea (12 months' grant, 23 400 € other expenses 1 376 €).

4.7 Mari Vanharanta – Asking the microbes: What do you do with the excess Phosphorus? (12 months' grant, 23 400 €).

4.8 Leena Virta – A trait-based approach for diatom functional biogeography in the Baltic Sea (7 months' grant, 13 650 €).

5. Pro gradu theses (MSc theses) were supported with **16 866 €** including 15 400 € in grants and 1 466 € in other costs)

5.1 Grönroos Jonas: Effect of gypsum additions on the flocculation processes of terrestrial organic matter in estuaries (grant 2 200 € other costs 254 €).

5.2 Kangas Anna: Transfer of Microplastics in Littoral Food Web (grant 2 200 € other costs 531 €).

5.3 Kontio Vesa: The impact of non-native species round goby on the nesting success of a native species sand goby (grant 2 200 €).

5.4 Linman Nonni: Effects of declining salinity on zooplankton ecology (grant 2 200 €).

5.5 Nurmesniemi Miia: The CNP storage of benthic organisms in shallow coastal bays representing a gradient of organic enrichment (grant 2 200 €).

5.6 Pykäri Janina: Comparing three methods in estimating euphotic depth along a coastal salinity gradient (grant 2 200 € other costs 400 €).

5.7 Vesänen Anna: Testing a novel methodology to assess carbon degradation in different coastal habitats (grant 2 200 € other costs 281 €).

6. Other research support, total sum **0 €** for expenses.

6.1 Anna Villnäs – Elemental stoichiometry of benthic invertebrates as driver of coastal biogeochemical cycles (the grant could not be used due to covid pandemic).

6.2 Sanna Suikkanen – Workshop – Microbial life cycles in a changing ocean (the grant could not be used due to covid pandemic).

7. Other research costs

Prof. **Alf Norkko** used **3 968 €** and the guest professors **Christoph Humborg** and **Bo Gustafsson** **6 940 €** for research expenses, their own travel costs and the costs of guest researchers' visits at Tvärminne. Support for the Tvärminne Zoological Station, employment of a laboratory technician, **6 430 €**, and updating and servicing equipment was **2 604 €**

TOTAL BUDGET for 2020

The Foundation's share of the cost for the two professorships was **129 516 €**. Besides that the total sum of personal support was **305 060 €**. The Foundation also supported research work by subsidising research visits, participating meetings, laboratory chemicals, equipment and analyses, research vessel costs, etc. with the total sum of **119 817 €**. Administrative costs totalled **36 852 €**, covering the expert group meetings, the remuneration of experts and a secretary, electronic grant administration, home page costs and other costs, including bank costs, accountancy and auditing.

February 1, 2022

Elina Leskinen
Secretary of the Walter and Andrée de Nottbeck Foundation