

# COMPETITION PROGRAMME 2017 TEYLERS TWEEDE GENOOTSCHAP HAARLEM

In keeping with the *Teylers Stichting*'s 200-year-old tradition of promoting academic research, the Directors of this foundation *Teylers Stichting*, together with the members of the *Teylers Tweede Genootschap* (Teyler's Second Society), have decided to hold a competition for the year 2017 on a subject relating to biology.

## SUBJECT

**We invite a critical study on optimising the sustainable multifunctionality of soils**

## DETAILS

Soil life is the foundation underlying our very existence, as it provides vital ecosystem services. Its multiple functions include making nutrients from organic matter available for plant growth, suppressing diseases and plagues, creating good soil structure and water retention capacity, preventing erosion, giving us clear drinking and surface water and mitigating climate change through carbon sequestration. This multifunctionality provides the basis not just for food chains in natural systems, but also for agriculture and the functioning of urban systems.

For this reason, it is of the utmost importance that we keep the soil healthy, and that instead of maximising a single one of its functions – the production of food and biomass - at the expense of others, we optimise the entire range, i.e. the full diversity of ecosystem services that the soil provides. If we consider today's agricultural production systems, a tension clearly exists on this point. For sustainable agricultural production, it is crucial that we reach this multifunctional optimisation.

The essential energy source for soil life is carbon from root exudates and organic matter. Consequently, a healthy soil life depends on there being sufficient carbon in the soil. However, we see today an alarming and global reduction of soil carbon. Intensive food production, and an increase in the use of biomass for products other than food, have caused less organic matter to be returned to the soil, resulting in a negative carbon balance. This is leading to soil depletion and, in the worst case, total soil degradation. In order to secure the soil's multifunctionality for the future, or to restore after degradation, we need to increase soil carbon levels.

Our knowledge about how life in the soil functions is increasing rapidly, as a result of advanced molecular and chemical-analytical techniques. However, it remains unclear how we may best guarantee the source feeding this life: carbon. Relevant questions in this respect are: What is the best way to increase soil carbon levels? Which organic

matter flows are most suitable for this? How do the quality and quantity of soil carbon affect different ecosystem services? Can we control soil life? And will this allow us to optimise the soil's multifunctionality?

Requested is a critical study of empirical or theoretical work that provides new insights in how, through feeding the soil, we can optimise its sustainable multifunctionality (crop production, prevention of pests- and diseases, clean ground- and surface water, carbon storage).

#### FORM OF ENTRY

**Entries should consist of either one extended study, in the form of a text prepared for publication, or of several publications, most of which have appeared in the three years prior to 1 January 2020. For the second option, the entrants shall be either the sole author or one of the principal authors; the entrants must also submit an unpublished text, written specifically for the competition, which sets out the earlier publications in a broader academic context.**

#### PROCEDURE

In order to qualify for the competition, candidates should submit four copies of their entry to the Directors of the *Teylers Stichting* (Spaarne 16, 2011 CH Haarlem) by 1 January 2020 at the latest. Entries received after that date will not be considered. The texts should be submitted in either Dutch, French, German or English.

In accordance with the provisions of Pieter Teyler van de Hulst's will, the author's name must not appear on the unpublished texts. Instead, the texts should be submitted anonymously, identifiable only by a maxim or saying. Entries should be accompanied by a sealed envelope, marked with the maxim that identifies the entry and containing the author's name and address.

#### JUDGING

The judging will be carried out by the members of the *Teylers Tweede Genootschap*, who will submit their recommendation to the Directors of the Teyler Foundation within four months of the closing date for submissions. The Directors' decision, which will be made within one month, will be final. All candidates will be notified as soon as a decision is made.

#### PRIZE

The prize consists of a gold medal struck from the *Teylers Tweede Genootschap's* dies. The medal will be awarded to the winner(s) at a special ceremony in the *Teylers Museum*. Professional journals and the press, and possibly other interested parties and institutions, will receive ample advance notice of the award ceremony.

## PUBLICATION

Responsibility for publication rests with the author of the winning entry, although the *Teylers Stichting* and the *Teylers Tweede Genootschap* may consider lending assistance. On publication, reference should be made to the fact that the text has received an award from the *Teylers Stichting*.

## INFORMATION

Further information may be obtained from the secretary of the society (see below). Journal editors and others who wish to draw the attention of their readership to the competition, but who do not wish to print the competition details in full, are urged to advise intending candidates to consult the programme for full details of the competition. Copies of the application form are available from the secretary. For more information about Pieter Teyler van der Hulst, the *Teylers Stichting* and its related institutions, such as the two learned societies, the museum and the almshouses, please consult *Teyler 1778-1978* (Haarlem 1978) and *De idealen van Pieter Teyler. Een erfenis uit de Verlichting* (Haarlem 2006).

## CURRENT COMPETITIONS

- Competition 2015 (history): over emotie-geschiedenis (closing date 31 December 2017)
- Competition 2016 (literature): over de invloed van de Middeleeuwen op de samenleving en culturele praktijk sinds de tijd van het Humanisme (closing date 31 December 2018)

For full details of the competitions, apply to the secretary.

## SECRETARY

bleyerveld@rkd.nl

## SUBMISSIONS

Submissions should have reached the Directors of the *Teylers Stichting* (Spaarne 16, 2011 CH Haarlem) before 1 January 2020.

MEMBERS OF *TEYLERS TWEEDE GENOOTSCHAP*

Prof. dr. W. van Anrooij, Professor of Dutch Literature before Romanticism, Leiden University

Dr. Y.L. Bleyerveld, Senior Curator Drawings and Prints c. 1500-1800, RKD – Netherlandish Institute for Art History, The Hague

Prof. dr. F.H. van Lunteren, Professor of History of Natural Sciences at Leiden University

Drs. A. Pol, former Curator of Medieval and Modern Numismatics, Geldmuseum, Utrecht

Prof. dr. ir. W. van Saarloos, Vice President of the Koninklijke Nederlandse Akademie van Wetenschappen and Professor of Theoretical Physics, Leiden University

Prof. dr. N.C.F. van Sas, Professor em. of History after 1750, University of Amsterdam

Prof. dr. L.E.M. Vet, director of the Netherlands Institute of Ecology (NIOO) and professor of Evolutionary Ecology at Wageningen University



Medal of the *Teylers Tweede Genootschap* (gold, 72 mm, c. 120 g, 14 carat); dies by J.G. Holtzhey, 1778:

- beneath the radiant all-seeing eye of Providence are Physics with her globe and compass, Poetry with her lyre, History with her book, Drawing with her brush and palette, and Numismatics bearing a tray of medals; OMNES ARTES QVAE AD HVMANITATEM PERTINENT HABENT QVODDAM COMMVNE VINCVLVM (all arts and sciences relating to human civilisation share a common bond)
- in a laurel wreath DOCTRINAE PRAEMIVM EX TESTAMENTO PETRI TEYLER V D HVLST HARLEMENSIS NATI DIE XXV MARTII MDCCII DEFVNCTI DIE VIII APRILIS MDCCLXXVIII (prize for scholarly achievement in accordance with the last will and testament of Pieter Teyler van der Hulst of Haarlem, born 25 March 1702, died 8 April 1778).