

Alliances and Co-operation Projects

Innovative diagnostic and therapeutic approaches to combat rare diseases

Profile area: [zukunft.niedersachsen](https://www.zukunft.niedersachsen.de)

Deadline: 30.06.2024

As predominantly genetic, rarely curable, and often chronic, rare diseases have a significant impact on the quality of life of those affected and their families. The approximately 8,000 diseases currently identified - with a dynamic annual increase of about 250 diseases - often show symptoms in childhood already. In many cases, the diagnosis itself is a challenge and treatment options are often limited to alleviating symptoms and slowing disease progression. At the same time, the number of syndromes that can only be identified by exclusionary diagnostics is growing and it is already difficult to identify the onset of the disease.

Innovations in cell and gene therapy as well as modern omics technologies, combined with bioinformatics and artificial intelligence, promise new perspectives for the identification of reliable diagnostics and therapeutic approaches. Such approaches do not only alleviate and slow down disease progression, but also enable relevant improvements in the quality of life for those affected and their relatives.

This call is intended to enable researchers with innovative - either basic or translational – impulses to improve diagnostic and therapeutic prospects for people with rare diseases. In addition, it is intended to strengthen scientists' successful participation in competitive supra-regional calls for proposals and collaborative projects by closing any gaps in their expertise.



Area of research: Rare diseases, personalised medicine, biomedicine, biotechnology, bioinformatics, data sciences



Type of funding: Consortia and individual projects



Target group: Professors and postdocs at universities and non-university research institutions in Lower Saxony



Funding amount: up to EUR 7.5 million EUR for consortia; up to EUR 3 million for individual projects



Funding period: Up to 5 years



1 Objectives

The aim of the call is to provide new impetus to research on rare diseases. Interdisciplinary extensions of the research design are strongly welcome. Research projects on rare diseases are also encouraged to place a particular focus on childhood manifestations. In principle, projects dedicated to previously undiagnosed diseases that could be rare diseases according to the definition, are also eligible for funding.

Projects can focus on the following areas:

1. High-throughput sequencing and genotyping of existing and possibly still to be expanded cohorts and other longitudinal health data, including the identification of (predictive) biomarkers (candidates)
2. Understanding new challenges in law and ethics regarding medical and research data in the context of rare diseases
3. Strengthening interdisciplinary perspectives using AI, machine learning and innovative imaging
4. xRNA-based therapeutic approaches, e.g., in the context of antisense oligonucleotide therapies
5. Innovative approaches to the acquisition and processing of biomedical data, e.g., through AI/ML, neural networks
6. Development and testing of innovative diagnostic approaches and further development of procedures that were previously very complex due to exclusion diagnostics
7. Proof-of-concept projects for the development of gene therapeutics
8. Proof-of-concept projects for the use of (multi-)omics approaches in the research of rare diseases

2 Scope of Funding

The call is aimed at universities in Lower Saxony (in accordance with § 2 NHG) primarily. Non-university research institutions are generally eligible to apply, if they cooperate with one of the other institutions eligible to apply. In justified cases, non-university research institutions may also initiate individual projects.

Generally, personnel, consumables, and, to a limited extent, investments are eligible for funding. For example, one to three doctoral student positions in the academic staff category (TV-L E 13) or one to two postdoctoral positions (TV-L E13/14), one to two non-scientific staff members, e.g. as technical assistants (TV-L E 9b), as well as material resources, travel

expenses including travel grants as part of method transfer, invitations to visiting scientists, publications and consumables can be applied per applicant professor/working group at a location. The procurement of research infrastructure and equipment is possible below the large equipment threshold of EUR 200,000; it may not exceed 25 per cent of the total application amount and must be realised – if possible - at the beginning of the funding period. Material expenses for modern omics applications of up to EUR 100,000 per year are also eligible for funding. Administrative staff is not eligible for funding.

Note: The average rates of the Ministry of Finance of Lower Saxony are decisive for the calculation of personnel funds, see appendix. The rates listed in the cost plan form in the Volkswagen Foundation's application portal do not apply to this call for proposals.

3 Application and Selection Procedure

3.1 Time schedule

The application deadline is 30 June 2024 and successfully reviewed projects may be funded starting on 1 April 2025.

3.2 Procedure

Applications must be submitted in English and must not exceed 30 pages (for consortia) or 20 pages (for individual projects) including CV/publication lists via the electronic application portal (see link below).

The review will be carried out by the office of the Wissenschaftliche Kommission Niedersachsen.

4 Application Checklist

4.1 Electronic Application – Instructions

Please submit your application via the Volkswagen Foundation's electronic application system (portal.volkswagenstiftung.de). Forms with information on the applicants, institutions (funding recipients), co-applicants and the project (title, duration and total budget) and the budget plan must be completed there. The *mandatory fields "Budget justification"* do not have to be completed.

In addition, the documents listed below must be uploaded as "enclosures" as pdf documents. Sections 4.2 and 4.3 must be uploaded **in one joint pdf file** under "Project description" (**maximum number of pages** for this document: 20 pages for individual projects, 30 pages for consortia). The other enclosures listed under 4.4 must be uploaded separately.

4.2 Project description (Format: font size 11 pt, 1.5 lines)

The application should include the following points, if applicable:

1. general information on the project and the persons involved

- Applicant (possibly speaker of the consortia)
- For consortia: tabular overview of the sub-projects including a list of all sub-project leaders involved in the research network
- Participating departments, institutes and facilities of the university, university of applied sciences and non-university institutes; if applicable, letters of support from industrial and other cooperation partners
- Funding period and funding amount, broken down by sub-project leaders and personnel, consumables and investments

2. brief description of the overall project incl. keywords

3. objectives and implementation of the research programme

- Topic, objective and justification of the project
- State of research in international comparison
- Research approach, methods, hypotheses
- Aims, work schedule and timetable of the research programme
- Governance and co-ordination between the sub-projects and project management
- In the case of consortia: additional description of the sub-projects (in particular the content-related classification of the sub-projects in the overall project and their networking)

4. supporting structures

Information on:

- Support for early career researchers
- Equal opportunities for female and male scientists and compatibility of scientific career and family

- Research data and knowledge management
- Knowledge transfer and public relations (also via open access, if applicable)
- For consortia: Content and structural integration of the research network into the participating institutions (university, university of applied sciences or non-university institutions)

4.3 Curriculum Vitae and publication list

Tabular CV of all applicants including the 5 most important publications (max. 2 pages each, links to profiles such as ORCID, ResearchGate or Google Scholar are welcome).

4.4 Further application documents

- Finance plan: Please insert your cost plan into this template [Finanzplan für Projekte \(PDF\)](#). For administrative reasons, this finance plan is required in addition to the financial information in the online form (see 4.1).
- Letter of support from the scientific institution
- Erklärung des Zuwendungsempfängers ([form, DOCX](#)) - to be completed by the applicant institution

5 Contact

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6 More Information

- [Instructions on the electronic application system](#)
- [Personnel costs table of the Ministerium für Wissenschaft und Kultur \(PDF\)](#)



Attachment

Tabellen der Durchschnittssätze zur Aufstellung des HPE 2024 zur Berechnung der Ansätze für Beschäftigte im Tarifbereich

Stand: Änderungsstarifvertrag Nr. 12 vom 29.11.2021

Entgeltgruppe	Allgemein
EG 02	43.905 €
EG 02 Ü	48.323 €
EG 03	46.274 €
EG 04	47.019 €
EG 05	50.956 €
EG 06	53.253 €
EG 07	55.257 €
EG 08	57.705 €
EG 09 a	61.752 €
EG 09 b	64.649 €
EG 10	69.342 €
EG 11	76.824 €
EG 12	85.948 €
EG 13	77.402 €
EG 13 Ü	101.440 €
EG 14	89.655 €
EG 15	102.163 €

