



**Netherlands Genomics Initiative**

**Horizon programme:**

**1<sup>st</sup> round of Zenith projects**

Call for research proposals in the field of Genomics  
and/or Bioinformatics

**June 2010  
The Hague, The Netherlands**



## Call for research proposals in the field of Genomics and/or Bioinformatics

### Zenith projects, 1<sup>st</sup> round

*In astronomy the horizon is the farthest point that you can see when you look forward. The zenith is the highest point in the sky when you look upwards. For NGI, both Horizon and Zenith represent visionary research that reaches beyond present boundaries.*

#### Objectives of the Horizon programme

The Horizon programme was set up to act as a breeding ground for talented researchers active in the scientific fields of Genomics and Bioinformatics. Within the Horizon programme, the Netherlands Genomics Initiative (NGI) aims to 1) focus on the development of individual talented researchers, 2) support innovative research, and 3) stimulate valorisation of research results.

Horizon aims to offer early-career genomics and bioinformatics researchers attractive career prospects within academia and research institutions. In line with the NGI strategy, this will be done by funding top research. Moreover, in view of the imminent prospect of large numbers of posts at institutions falling vacant as their present incumbents retire, these organisations acknowledge the need to attract and retain a new generation of talented researchers. Horizon therefore aims to encourage researchers to become scientifically independent by setting up or expanding their own research line and research group.

Horizon aims to promote and coordinate outstanding and visionary fundamental research by offering researchers the freedom to realize their ideas and concepts beyond existing disciplines. The research supported by the Horizon programme is future-oriented. Researchers are given the opportunity to respond rapidly to new hypotheses or technologies.

In addition, the Horizon programme aims to achieve valorisation of the results obtained in the research projects. To this end, project leaders are expected to adopt an active attitude towards valorisation.

The Horizon programme 2008-2012 is divided into two phases.

- In the first phase (2008-2010), researchers were given the opportunity to show their talent during a short research project, known as Breakthrough projects. Breakthrough projects focussed specifically on developing an innovative concept into a proof of concept. Three rounds (rounds 5, 6 and 7) of Breakthrough projects were organised.
- In the second phase (2010-2012), researchers with proven talent are to be given the opportunity to propose a larger research project: the **Zenith** projects. Zenith projects are aimed at elaborating a proof of concept into a mature research line and will help talented researchers set up or expand their own research group. Eligibility for a Zenith project therefore depends on a proof of concept. Two rounds of Zenith Projects are planned.

The admissibility and assessment criteria for Zenith projects are described below. During the initial phase of the assessment procedure for Zenith project applications, the Horizon committee will give added weight to Horizon Breakthrough projects that have been successful. Receipt of a Breakthrough grant will not, however, be a requirement for eligibility for a Zenith project grant.

#### Definitions of genomics and bioinformatics

In this first round of Zenith projects, applications must meet the definition of genomics and/or bioinformatics described below.

##### Definition of genomics

Genomics is defined as research that focuses on clarifying the way in which genes, RNA, proteins and metabolites cooperate in the functioning of cells, tissue, organs and the entire organism within a



species, in a population or between species and their environment. This is achieved by means of large-scale characterisation of genes and/or gene products.

The above definition of genomics is a broad one and includes (though is not exclusively confined to) proteomics, structural genomics, transcriptomics, metabolomics and functional genomics. However, research that is exclusively geared to elucidating a distinct, specific structure or function of a gene or gene product does not meet this definition of genomics. Nor is the generation of genome sequences *per se* is one of the objectives of the Horizon programme unless it makes a significant contribution to the unravelling of a functional formulation.

### Definition of bioinformatics

Bioinformatics is defined as the computer-algorithmic generation of knowledge and insight acquired from large quantities of molecular biological information. The focus must be on at least one of the following.

- Exploiting and integrating the spectacular increase in our knowledge of genomes, biomolecular, genetic and/or phenotype-related data on the basis of biological processes.
- Simulating and/or verifying the structure, function and dynamics of biomolecular systems at both a molecular and a supra-molecular level on the basis of biological formulations.
- Making large biological databases accessible by developing algorithms for database linking and database mining in relation to the two aforementioned lines of development.

### **Grant conditions for Zenith projects**

Zenith projects are long-term projects (4-5 years) that aim to develop a proof of concept into a mature research line. Besides being innovative, the research line must also be well-founded and the project must be feasible within the envisaged timeframe. Zenith aims to help talented researchers set up or expand their own research group of international standing.

In some cases, a Zenith project might be a follow-up to a Horizon Breakthrough project. This is not, however, a prerequisite. If a preliminary application for a Zenith project is submitted on the basis of a *successful* Horizon Breakthrough project, the committee will recommend that a full proposal be submitted. In this regard, success is defined as the realisation of the proof of concept as described in the original Horizon Breakthrough application. The conclusion as to whether or not the *proof of concept* has been realized will be based upon the interim and final reports of the Horizon Breakthrough project. Obviously, the scientific quality of the Zenith application will also be considered in the committee's recommendations.

Applications that are not based on a Horizon Breakthrough project should also present results showing that a proof of concept has been realized.

Once a grant for a Zenith project has been awarded, project leaders will be expected to submit annual progress reports as well as a final report.

### **Who can apply ?**

Applications may be submitted by PhDs with a permanent or temporary position at Dutch institutions for scientific education and research and institutions recognized by NWO. Zenith project applicants may only submit proposals from 2 to 15 years after they have received their PhD (see admissibility criteria below). Dutch and foreign researchers residing abroad may submit proposals for projects to be carried out in the Netherlands.

Zenith projects are specifically aimed at establishing a research group by appointing a PhD student or postdoc. More than one person can be appointed to work on a Zenith project.

Applicants with a permanent employment contract (professor, UHD, UD) may apply for funding only for:

- scientific personnel (e.g. PhD student, postdoc)
- non-scientific personnel (support, e.g. technician or programmer)

Applicants with a temporary employment contract (e.g. experienced post-doc or junior group leader) may apply for funding only for:

- their own position
- scientific personnel (e.g. PhD student, postdoc)



- non-scientific personnel (support, e.g. technician or programmer)

Since the Horizon programme aims to foster individual talent, applications may not be submitted with co-applicants. There must be just one applicant, who will be the sole contact person throughout the entire application procedure.

NGI wishes to use this programme to promote women's careers in academic research. It will therefore strive to achieve a success rate among female candidates, averaged out over a number of years, at least equal to that of male applicants. NGI encourages women to submit applications.

### **What can be applied for ?**

Grants are available for the funding of new scientific positions (PhD students, postdocs) and, to a lesser extent, for other facilities needed for research (support personnel, consumables, travelling expenses, equipment costs specifically incurred in association with the Zenith project).

The duration of a Zenith project must be at least 4 years and at most 5 years. A maximum regular budget of € 400,000 per Zenith project can be applied for.

If the proposal includes research in the field of bioinformatics, the regular budget may be extended to a maximum total of € 500,000 (see below).

The General Terms and Conditions for NWO Grants (*Regeling Subsidieverlening NWO*) is applied to the grants awarded. See the NWO website, contract VSNU until 01-07-2010, for standard lump-sum amounts for various positions.

If the quality is found to be good, NGI aims to award grants to around 10 Zenith projects during this first round. This number is not fixed and may be increased or reduced depending on the quality of the proposals.

### **Bonus for the inclusion of bioinformatics**

The vast increase in the amount of data generated in genomics research demands close interaction with bioinformatics research for their interpretation. Nevertheless, in many research initiatives bioinformatics is still not an integral part of genomics research.

NGI aims for a strong intertwining of bioinformatics into genomics research. To further stimulate this process, proposals that include bioinformatics research may be eligible for extra funding of up to € 100,000. *A prerequisite for this additional funding is that a substantial amount of work is done by a bioinformatics specialist (at least 0.5 FTE).*

### **Valorisation**

NGI strives to promote the valorisation of genomics knowledge and scientific results derived from the Horizon programme. Valorisation is defined as the flow of new knowledge to users with a view to its application in products, processes and services. Users may have commercial and/or non-commercial goals. Potential users might include industry, medical centres, (associations of) patients, et cetera.

NGI pursues an active policy in promoting the results of the Horizon programme and expects the same from the project leaders. That is why the potential for valorisation is an integrated component of the evaluation and selection procedure. With a view to maximizing the valorisation potential of the research results from the projects awarded grants, a valorisation officer from the NGI Valorisation Network will be informed of each Zenith grant awarded. If the project leader's host institution is not linked with a valorisation officer in the NGI Network, the Technology Transfer Office (TTO) of the host institution will be informed of the grant awarded. If the project leader's host institution does not have a TTO, NGI will approach a suitable valorisation expert, in consultation with the project leader.

NGI aims to organize patent workshops for all Horizon project leaders. Such workshops should enable project leaders to identify and recognize potential inventions that are worth patenting at an early stage, thereby making it possible to exploit such inventions. In addition, NGI will strive to facilitate interest from potential users by giving publicising results obtained in the Zenith projects.

### **Selection procedure and criteria**

#### Admissibility criteria:

The following admissibility criteria apply:



- a) Applications must meet the aforementioned definitions of genomics and/or bioinformatics.
- b) Applications must be submitted by individual researchers (not, for example, by teams of researchers).
- c) All applicants may submit proposals only in the period beginning 2 years and ending 15 years after they receive their doctorate, calculated from the date on which the doctorate was formally awarded to the deadline for application in the relevant round of grant applications.  
*NGI may, however, relax this 15-year deadline in the case of individual candidates who have taken extended sick leave, parental leave, maternity leave or care leave within that period. The deadline may also be relaxed where the candidate has combined a part-time research appointment with care responsibilities. Further information about the relaxation of the deadline is provided in annex 1.*
- d) Applications should always contain a request for personnel. It is not possible to solely apply for a budget for materials, e.g. arrays, chemicals, etc.
- e) Personnel appointed on a Zenith project should devote a substantial proportion of their time to the project (at least 0.5 FTE).
- f) Only one application per person per round.

### Assessment criteria:

Besides the aforementioned admissibility criteria, the following three criteria will be applied in the assessment of the application:

1. *Innovativeness, feasibility and scientific quality of the proposal*
  - The originality and innovative nature of the proposed research.
  - The clarity of the problem definition and proposed research.
  - The scientific quality of the proposed research.
  - The presence of a proof of concept.
  - The feasibility of completing the proposed research during the course of the project.
  - The suitability of the approach.
  - The soundness of the budget.
  - The potential to make a major contribution to the advancement of science or technology.
2. *Individual quality of the candidate*
  - Academic excellence demonstrated by the applicant's doctoral thesis, publications in the course of thesis preparation and thereafter.
  - Past performance in terms of grants, awards, etc.
  - Scientific importance of previous research.
  - Education, employment record, mobility.
  - Ability to lead and supervise other researchers and/or support staff, as applicable.
3. *Potential for valorisation*
  - Production of knowledge claims in a) patents and copyrights and b) peer-reviewed papers.
  - Past valorisation performance plus support provided to facilitate output.
  - Implementation plan: benefit for economy, innovation and professionalisation.
  - Tangible impact on society.

These three criteria will carry equal weight in the assessment of the application.

### Assessment procedure:

The Horizon committee is broad-based, consisting of scientists from various disciplines within or affiliated with genomics or bioinformatics. The Horizon committee will prioritise the applications on the basis of the programme criteria.

The committee will make an evaluation of the preliminary applications if the total number of applications exceeds 25. Applicants who pass this first assessment will be invited to submit a full proposal. The full proposals will be presented to a panel of specialists (referees) for their written



assessment. Applicants will be invited to respond to the referee reports (in the form of a 'rebuttal') if they wish. The Horizon committee will advise NGI based upon the application, referee reports and rebuttal. Finally, NGI will decide which applicants are to be rewarded grants. See Annex 2 for a flow chart of the assessment procedure.

### Schedule

#### Application

Forms for preliminary applications will be available ([www.zonmw.nl](http://www.zonmw.nl)) and ZonMw ProjectNet will be open for applications from June 30, 2010.

#### Projected schedule

4 October 2010	Deadline for submission of preliminary applications
Oct. – early Dec. 2010	Evaluation of preliminary applications by committee
Early December 2010	Announcement of results of preliminary applications
End of January 2011	Deadline for submission of full applications Full applications sent to referees
Early March 2011	Referee reports sent to applicants
15 March 2011	Deadline for rebuttal in response to referee reports
End of March - April 2011	Evaluation of full applications, referee reports and rebuttal by committee
End of April 2011	Final decision by NGI

*Please note that the projected schedule may be subject to changes.*

### Submission

The deadline for submission of preliminary application is **4 October 2010 at 15.00 hrs**. The ZonMw ProjectNet system – accessible via [www.zonmw.nl](http://www.zonmw.nl) – should be used for online submission of applications.

### Further information

For detailed information on the programme, visit the websites of ZonMw ([www.zonmw.nl](http://www.zonmw.nl)) or NGI ([www.genomics.nl](http://www.genomics.nl)) and click on the Horizon page. For further questions contact Dr. Rob Diemel, programme officer: e-mail [diemel@zonmw.nl](mailto:diemel@zonmw.nl), telephone 070-3495201.



## Annex 1: Extension clause for care responsibilities

You need only apply for an extension if the time between the date on which your doctorate was awarded and the submission deadline for the relevant round of Horizon grant applications exceeds the maximum period of 15 years. If you apply for an extension, it is important to contact the Horizon programme officer before submitting your application. Moreover, please indicate on the application form whether you apply for an extension.

*You may qualify for an extension if you have taken extended sick leave, parental leave, maternity leave or care leave within the period in question. The maximum limit of 15 years may also be relaxed if you have combined a part-time research appointment with care responsibilities.*

The rules for calculating the permitted extension are as follows:

- if you have taken parental leave, maternity leave or leave to care for children, an extension will be granted only if the care responsibilities are related to a child/children who was/were part of your household;
- female applicants will receive 18 months extension for each child born before, during or after the period since the date on which the doctorate was awarded;
- male applicants will receive extension for the actual time they have taken parental leave or the proportion of FTE by which they reduced their hours, with a maximum of one year's extension for each child born during the period between the date on which the doctorate was awarded and the deadline of the round;
- applicants who have taken extended sick leave or leave to care for an close relative or partner (who was chronically ill) may apply for an extension for the actual FTE they were not able to devote to their research. This applies only to the period between the date on which the doctorate was awarded and the deadline of the round;
- the extension will never exceed **five years**, even if you have cared for a number of children in succession.



Annex 2: Flow Chart of the assessment procedure

