

## Exemplar Project Call 3 (2011)

### 3rd Call for new VPH Exemplar Projects in the VPH Network of Excellence

Submission deadline: Monday, April 25, 2011  
Notification of acceptance: no later than June 1, 2011  
Anticipated start date for selected projects: July 1, 2011

Proposals must be submitted electronically by sending a PDF file (max. 5MB) to:  
stephen-randall.thomas@u-psud.fr

#### 1) Who can apply?

**Any European laboratory interested in contributing to the improvement or uptake of the VPH NoE ToolKit can apply.**

It is not necessary to already be a member of the VPH NoE consortium. If your laboratory is not already a Core Member or General Member of the NoE, you may submit an EP proposal and apply concurrently for General Membership.

**2) It is not obligatory for EPs to be part of an ongoing project.** Nonetheless, it is an advantage to be part of a currently funded (national, local, EU) project, because the EP funding doesn't cover anything except 6 to 12 person months for work directly related to the VPH NoE, so it is best to use this to leverage a broader effort being funded by other means.

#### Background

This is the third and last call for proposals for VPH NoE Exemplar Projects (EPs), activities that are intended to reinforce VPH ToolKit development (see the Exemplar Project Strategy Document, EPSD)<sup>1</sup>. Successful proposals will be awarded financing to hire a postdoc/engineer/programmer for 6 to 12 Person Months for work directly related to the VPH ToolKit, as described below.

The principal challenge we recognize in development of the VPH is the establishment of connections between domains of investigation with a view towards biomedical applications in a **sustainable, long-term environment, targeting re-use and interoperability**. Successful proposals will speak to the following statement, as expressed in the latest version of the VPH Vision document<sup>2</sup>:

*Our vision for the VPH/Physiome project is: To establish an ICT and computational science framework for digital, personalised, and predictive medicine in the 21<sup>st</sup> Century. To link discoveries in molecular biology with clinical imaging and other technologies using computational physiology based on the mathematical and engineering sciences. And to link genotype to phenotype for human and other animal tissues through anatomically and biophysically based multiscale models of physiological structure and function, at the levels of cells, tissues, organs and organ systems.*

Crucial to this are adherence to a set of reference standards (some still in progress) that constitute the foundation of the VPH Toolkit, and the need for Toolkit content to be of a sufficient quality that it will readily be accepted and used.

#### Tool Re-use

The VPH-NoE recognizes the importance of sophisticated, predictive, computational models of physiology and disease that encompass multiple biological scales, including

<sup>1</sup> EPSD: [http://www.vph-noe.eu/vph-repository/doc\\_download/50-vph-noe-exemplar-project-strategy-document](http://www.vph-noe.eu/vph-repository/doc_download/50-vph-noe-exemplar-project-strategy-document)

<sup>2</sup> [http://www.biomedtown.org/biomed\\_town/VPH/VPHnews/VPHvision](http://www.biomedtown.org/biomed_town/VPH/VPHnews/VPHvision)

## Exemplar Project Call 3 (2011)

especially the higher scales of the physiome (e.g., models of multi-cell systems, tissue, organ, multi-organ systems, organism structure and function). Linking lower scale data and models (e.g., models of genes, proteins, carbohydrates, lipids, signaling pathways and networks, metabolic pathways and networks, and molecular interactions at the cellular level) with higher scale models brings model development closer to predictive medicine.

Note, however, that as stated in the Description of Work of the NoE, **it is explicitly NOT the role of the NoE to fund the *development* of such models or of new modeling techniques or algorithms**; the aim in the NoE is to reinforce, and indeed to enable, the **re-use, integration, and sharing** of such models and of the data they depend on and the information derived from their use in order to enable researchers and clinicians to better understand, prevent, diagnose and treat diseases or aberrations in normal development.

### **Call 3: Interoperability and demonstrable use of the VPH ToolKit**

To these ends, this Third Call for VPH Exemplar Projects is an **open call for proposals in any field of physiology/pathophysiology modeling that provide significant and "exemplary" demonstration of the use of VPH ToolKit content and reference standards (ontologies, markup languages, workflow schemes...), with a clear element of re-usability and interoperability, characteristics that are necessary for the sustainability of the VPH approach. Key aspects of the VPH/Physiome vision are to arrive at clinically relevant, patient-specific mathematical models and data resources.**

*All proposals must strive for this target by adhering, as far as possible, to the Toolkit Attributes given in the Annex below.*

In the selection process, special attention will be paid to proposals ensuring the openness of the resulting environment/infrastructure, as well as the **production of a demonstrator**, which must be included as a deliverable of the project.

### **General requirements**

Proposals will be required to provide as much as possible of the following (in addition to maximum adherence to the Toolkit Attributes):

- 1.- A demonstrator: Ideally something used by "real users" not just the developers
- 2.- A timeline for implementation of declared Milestones and Deliverables
- 3.- Demonstrable intent to collaborate with the WP3 (ToolKit Development) team (especially for data sharing, model markup, and the like).
- 4.- Description of the project workflows, how tools were linked together, what standards made this possible, etc.
- 5.- Contribution of tools to the ToolKit portal, with specification of their level of validation and conformance to (or if nothing suitable exists for their area, development of) ToolKit attributes (models/data/ontologies). Hence the need for direct interaction with the WP3 team. NB: VPH tools should ideally be open source, downloadable by all, and distributed under an open license.

### **Who can apply?**

**Any European laboratory interested in contributing to the improvement or uptake of the VPH NoE ToolKit can apply.**

It is not necessary to already be a member of the VPH NoE consortium. If your laboratory is not already a Core Member or General Member of the NoE, you may submit an EP proposal and apply concurrently for General Membership. (See above)

## Exemplar Project Call 3 (2011)

### Content & Form of the Application:

- Names and institutional details for project partners
- Specify the estimated cost of a postdoc (no overheads, see below) for the PI institution in Euro per month, and a summary of the proposed overall budget, not to exceed 70k€.
- Specify whether the project is based on a presently financed project and whether this funding will continue over the duration of the EP involvement in NoE
- Letter of support from the Head of the Department, confirming that the funded post will be given the usual levels of support and access to necessary space and facilities
- Project Description (**10 pages max., 11pt. Arial or Geneva font**)
  - *Project Summary*: The proposal must begin with a summary (not more than one page) suitable for publication and giving a self-contained description of the activity that would result if the proposal were funded. The summary should be written in the third person and include a statement of objectives and methods to be employed. It should be informative to other persons working in the same or related fields and, insofar as possible, understandable to a scientifically or technically literate lay reader.
  - *Table of Contents*
  - *Project Description—should include the following sections*
    - Motivation for linking to the VPH ToolKit development.
    - Proposed contributions to be made to ToolKit development (e.g., "marked up" models, databases, benchmark datasets, standards compliance, infrastructure components...).
    - Potential/expected biomedical implications.
    - Description of a Demonstrator to be proposed at project completion.
    - Specification of Milestones and Deliverables, with a timeline for their implementation.
  - *List of the most relevant publications by the project team (no more than 10 per partner laboratory)*
- Indicate three potential reviewers<sup>3</sup>, including contact details

### Review & Selection Process

- Proposals will be sent to external reviewers within one week after the submission deadline.
- Applicants should indicate three potential reviewers; they may also list the names of a small number of people whom they do not wish to have as reviewers for their proposal.
- Each proposal will be assigned to a *rapporteur* on the EP Evaluation Committee (EPEC). The rapporteurs will present the proposals and external reviewers' comments for each proposal to the full EPEC.
- Approximately 5 to 6 weeks after the submission date, the EPEC will convene for evaluation of the proposals.
- Decisions of the EPEC will be final and cannot be appealed. The decisions will be sent out on the next working day following the EPEC meeting. Selected projects will have approximately two months before the start date, in order to allow them time to search for candidates for the funded position.

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<sup>3</sup> There will be no obligation to call on the proposed reviewers

## Exemplar Project Call 3 (2011)

### Evaluation and Follow-up of Successful Exemplar Projects

Once underway, EPs will provide regular reports (at least every two months) in short bullet point form of progress made, challenges faced, successful accomplishment of agreed Milestones and Deliverables, and plans for the next period.

Close coordination is expected to be established from the outset with appropriate members of the WP3 ToolKit team. Interactions with WP3 should take the form of verifiable minuted contact (telephone/video conference/in person) with goals and outputs arising from these.

A final report must be compiled and submitted in the form of an 'EP Case Study' to the WP2 & WP3 coordinators 18 months after the start date. The timing for official reports (based on the NoE DoW) is as follows:

### Financing, Intellectual Property, etc.

- An allocation will be accorded to the PI institution of each selected EP, to be spent for salary of a "postdoc/research assistant" (real/direct costs, no overheads) for a period of 6 or 12 months (to be determined during the EP review process, based on individual project requirements); the proposal must specify the cost per person-month at the PI institution.
- It is unnecessary to furnish administrative details (except for contact details) of any other parties involved in the project
- EC rules that apply to sharing of resources [from the Consortium Agreement, section 7.3.6]: *"All payments for supporting Exemplar Projects shall be made directly to the institution concerned by CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE reimbursing, with funds drawn from the Exemplar Project Budget, 100% of real and actual costs incurred with no additional overheads paid to the institution concerned. Reimbursement shall be made for salary and travel and subsistence only. In all cases, reimbursement shall only be made provided that a corresponding active unspent budget is available in the Exemplar Project Budget and it has been allocated for the given expenditure to the concerned institution with decision of the Steering Committee. Payments are subject to the provision of original receipts or invoices and proof of authorization to pay provided by the Steering Committee. CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE shall be responsible for processing these claims in an efficient manner and will enter the amounts as part of its cost claims to the EC."*
  - Note : this procedure does not preclude the possibility of pre-payment of a portion of the EP budget, in cases where the PI institution would otherwise be unable to hire the personnel promptly for the EP.
- Issues of Intellectual Property, Security, etc. covered in the VPH NoE Consortium Agreement and in the General and Associate Membership Agreements, and which will not be recalled here, apply to the EPs.
- As with any EC project, payment of the full allocation will be subject to fulfillment of projected Deliverables as specified in the project timetable.

### Contacts, mailing addresses...

**WP2 Coordinator:** S. Randall Thomas <stephen-randall.thomas@u-psud.fr>

**WP3 Coordinator:** Keith McCormack <k.m.mccormack@sheffield.ac.uk>

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### Links:

1) EPSD: [http://www.vph-noe.eu/vph-repository/doc\\_download/50-vph-noe-exemplar-project-strategy-document](http://www.vph-noe.eu/vph-repository/doc_download/50-vph-noe-exemplar-project-strategy-document)

2) RTAE: [http://www.vph-noe.eu/vph-repository/doc\\_download/51-vph-noe-requirements-and-technology-assessment-exercise](http://www.vph-noe.eu/vph-repository/doc_download/51-vph-noe-requirements-and-technology-assessment-exercise)

3) VPH Roadmap/Vision document:

[http://www.biomedtown.org/biomed\\_town/VPH/VPHnews/VPHvision](http://www.biomedtown.org/biomed_town/VPH/VPHnews/VPHvision)

## Exemplar Project Call 3 (2011)

### Annexe: Targeted Attributes of VPH ToolKit Content

Tabulated here are the attributes for toolkit content that are seen as contributing to the overall target for Excellence and Sustainability, and which should each be addressed by submissions for Exemplar Project funding:

<b>Attribute</b>	<b>Description</b>
<b>Sustainable</b>	Will endure perhaps indefinitely, due to user uptake, funding, curation, follow-up, nature of topic, design approach, versatility, etc.
<b>Standards-based</b> <i>Markup languages</i> <i>Ontologies</i> <i>Signal formats</i> <i>Imaging formats...</i>	Outputs should avoid non-standard methods, and should adhere to and utilize wherever possible existing international standards and especially, as they become available, the <b>VPH reference standards</b>
<b>Generalised</b>	Tools should be developed in such a way that they will encourage uptake.
<b>Demonstrably necessary</b>	Applicants should write a compelling case. Is there evidence that the proposed outputs are desirable?
<b>Workflow compliant</b>	Outputs should be demonstrably capable of operating in a chain of such items, or (preferably) should themselves be such a chain, utilising pre-existing components
<b>Comprehensively documented</b>	No need for a help desk. Documentation should be professionally written, and it should provide examples.
<b>Infrastructure-supportive</b>	Designed to work within, preferably enhance, VPH infrastructures for the creation, curation, dissemination and exploitation of content
<b>Regulation-aware</b>	It is appreciated that bringing tools to clinical acceptance involves regulatory steps that can be daunting. It is not expected that output has passed all regulatory hurdles, but an awareness of this requirement must be demonstrated, and no content should preclude future regulatory approval.
<b>User-Friendly</b>	Content should be usable with relative ease by educated users. For example, in the case of an imaging tool, radiographers with no software development skills should be able to use the tool without further intervention.

Not all attributes are expected to feature in every submission. The degree to which the proposal meets the headline requirements of Sustainability and Excellence will determine the final ranking.