AstraZeneca / SciLifeLab - Joint Research Collaboration Invitation for Project Pre-Proposals

In April 2012 AstraZeneca joined Knut and Alice Wallenberg foundation and the Swedish Government in a combined effort to support work at SciLifeLab. AstraZeneca is committed to supporting integrated relevant projects with the scientific community at the Universities responsible for SciLifeLab for a period of up to 5 years. During the first half of 2013, AstraZeneca will therefore identify and initiate approximately 5-10 open collaborative research projects, based on new or existing strong interdisciplinary networks

The focus is translational science and patient related research focusing on disease understanding, target validation and finding/validating new therapeutic opportunities. Areas of interest include neuroscience, cancer, respiration, inflammation, diabetes/metabolism, cardiovascular disease and infection.

The aim for the research programs is to explore three areas of interest

1. **Systems models of disease and relationships between diseases**. The **general** area of interest is around the construction of reference databases based on systems analysis (informatics) and the generation and integration of large scale sample profiling and clinical data, and then datamining of novel intervention points and markers of differential response, diagnosis and prognosis in chronic disorders. Thus, the theme is integrated approaches designed to generate knowledge from epidemiology, biosample analysis and clinical data (including real world evidence) to develop understanding of the risk and prognostic relationships within and between diseases. **Specifically** this could involve use of large biomarker databases (e.g.., genetics, genomics, protein and proteomics, IHC) for **autoimmune diseases, respiratory diseases, cancer and cardiovascular/metabolic diseases**, to provide more information on questions such as prevalence of patients likely to respond to targeted therapies, development of resistance to antitumour or antiinflammatory treatment (in eg. NSCLC, breast cancer, RA, SLE), or drivers behind fast and slow disease progression including the development of complications (in eg. ACVD, Diabetes and Obesity). Another area of interest would be to increase our understanding of the relationship between disease progression, mechanisms and markers in **neurodegeneration** (in eg. Alzheimers or Parkinsons disease).

2. **Development and characterization of animal models and/or technologies**. The **general** area of interest is characterization of animal models using imaging and -omics approaches to understand in what ways human disease is reflected. How can we improve the predictability into the clinical population and all subpopulations? Development and characterization of novel translatable models, including novel transgenic and human iPS models, eg in **neuroscience**. Specifically characterization of **animal models in autoimmune diseases, cancer and diabetes** using imaging, physiological and omics approaches – in what ways do they reflect human disease and in what ways do they not?

3. **Development of new technologies in the area of Bioinformatics. General** area of interest is novel analytical and statistical methods for large scale data analysis (including 2nd generation sequencing and other "big data" analytics such as epidemiology and –omics data), semantic

integration methodologies and frameworks, and the use of social media/mobility in real world evidence research. A key theme is how can we integrate data from various technologies and analyse patterns to model diseases and find, for example, responders and non-responders?

Application, submission and time lines

<u>Pre-proposals</u> covered by this call may be submitted by any PI employed (>50%) at the any of the four universities responsible for SciLifeLab (Karolinska Institutet, KTH, Stockholms Universitet, and Uppsala Universitet). Research grants under the program will be made available via the home institution of the lead PI, and will include salary funding as well as significant direct project funding for consumables, use of analytical platforms etc. Grants may be awarded up to approximately 1 MUSD /yr/project for up to five years. Results are intended to be freely publishable.

AstraZeneca and MedImmune have core expertise in several of the areas suggested for the collaboration, and it is envisaged that research programs will collaborate with AstraZeneca and MedImmune as and when appropriate. Furthermore the company also has extensive internal resources that can be used to support research programs, both in Discovery and Early Development as well as for example clinical trial samples.

Interested PIs are welcome to submit a pre-proposal by 8th March 2013 by email to [azscilifelab@**astrazeneca.com**](mailto:azscilifelab@astrazeneca.com) . Interested PIs are welcome to seek clarification prior to submission by contacting either Anders Ekblom, Global Head Science and Technology Integration at AZ (anders.ekblom@astrazeneca.com) or Hugh Salter, leading the AZ-Translational Science Centre at KI (tele 08-553 23406 alt hugh.salter@astrazeneca.com).

Pre-proposals should be maximum five A4 pages in length, and should briefly summarize the proposed research and include a) scientific background b) proposed research and relevance to program aims, including where appropriate description of cohorts c) preliminary budget estimate d) proposed key deliverables & milestones. A brief (max 1 A4) CV for PI(s) should be appended.

Pre-proposals will be selected by AstraZeneca complemented by an independent peer review group including academic experts providing external review, with decision by 5th April. Selected pre-proposals will be invited to develop, in consultation with AstraZeneca, and submit full proposals (max 10 A4 pages) with definitive funding, collaborative and milestone objectives by 17th May (preliminary date). Final decision on projects to be funded, which will include external consultation, will be made by during June 2013.