

# 2005 DHLRI THEMATIC PROGRAMS: SCIENTIFIC AND FINANCIAL PLAN

Original Investment Area title:  
New Title (if applicable):

Program Director: Chandan Sen  
Program Co-Director: Periannan Kuppusamy  
Clinical/Translational Co-director: Gayle Gordillo, Clay Marsh

ABSTRACT (Please limit to the size of the text box)

This business plan is aimed at developing a scientific program in DHLRI focusing on Regenerative Medicine and integrating with the other three named programs- Inflammation & Fibrosis, Ischemic Heart Disease and Myocyte Biology. This program is in direct continuum with the program on Inflammation & Fibrosis led by Dr. Clay Marsh. Thus, the development of this program plan has been carried out in direct consultation with Dr. Marsh. The program led by Dr. Zweier focuses on tissue injury and the repair theme of the Regenerative Medicine program is in direct continuum with Dr. Zweier's program. As a result, this plan has been developed in direct discussion with Dr. Zweier and several members of his program who serve on the planning committee of the Regenerative Medicine program.

The business plan embodied in this document is the product of four hour-long planning committee meetings held on September 21, October 5 & 12 and November 02, 2005. The planning committee is made up of 18 junior and senior investigators representing the basic as well as clinical sciences. The summary plan included herewith represents the consensus of the committee.

The overall plan may be classified into two related components: (i) recruiting new investigators in the area of tissue repair and remodeling to strengthen our research position as well as our funded grant portfolio, and (ii) assessing existing strengths and re-investing in our current faculty and infrastructure to take them to the next level of productivity. It was strongly felt that this latter component has been poorly addressed since inception of DHLRI and that the re-investment component would be pivotal in aligning the constituents of the institute with the leadership.

It was felt that the \$2.5M funds be split 50-50 to support the two specific aims mentioned above. Specifically, \$1.25M (0.6K for senior + 0.3K for each junior + 0.05K for recruitment expenses ) would be allocated to hire at least one senior level faculty (at least 2RO1) and two junior level faculty (at least one NIH grant each). This program will partner with other fund sources (eg Departments) to execute such recruitment. The remaining \$1.25 M will be utilized for program development addressing the following specific goals:

- a. incentive for 3 PPG development (inter-programmatic partnership expected)
- b. 50% salary support for postdocs to be shared between laboratories (4/y, 2y)
- c. Support to engage clinical faculty in research program building (4/y, 2y)
- d. Support of interprogrammatic core (new or upgrade of current cores)
- e. Administrative support for this program (0.5 FTE)
- f. Support for sharing graduate students between laboratories
- g. Funds to facilitate rapid team response to relevant RFAs
- h. Seed funds to junior faculty that are yet to receive their first RO1

All of the above are aimed at not benefiting any single laboratory but towards program building that would result in higher grant and publication productivity.

## 1. Projected Faculty Participation

Key Personnel (P.I. status/ HLRI Members) who will actively participate in this Program (use additional rows as necessary).

The Planning Committee (individuals that have physically participated in the planning process) Composition is as follows:

Chandan Sen  
Periannan Kuppusamy  
Clay Marsh  
Donna Kusewitt  
Valerie Bergdall  
Yong Xia  
Guanglong He  
Govindasamy Ilangovan  
Pawel Kwiatkowski  
Sashwati Roy  
Gayle Gordillo  
Tatiana Oberyszyn  
Sudha Agarwal  
Nicanor Moldovan  
Darren Knoell  
Paulus Janssen  
Charles Cook  
Arthur Strauch

Other Personnel (Faculty status/ HLRI Members) who are likely to collaborate or directly benefit from the Program.

Chandan Sen  
Periannan Kuppusamy  
Clay Marsh  
Donna Kusewitt  
Valerie Bergdall  
Yong Xia  
Guanglong He  
Govindasamy Ilangovan  
Pawel Kwiatkowski  
Sashwati Roy  
Gayle Gordillo  
Tatiana Oberyszyn  
Sudha Agarwal  
Nicanor Moldovan  
Darren Knoell  
Paulus Janssen  
Charles Cook  
Arthur Strauch

Plus at least 50% of the members of the Marsh Program

Plus at least 25% of the members of the Zweier Program

And hopefully at least 10% of the members of the Periasamy Program

List of Current Active and submitted funding of Key Personnel and its relationship to this project:

Based on names provided, request that DHLRI Admin find this information from OSURF records

2. Overall Objectives of the Thematic Program, how they fit with the DHLRI Mission and how they resonate with national research priorities. (Limit 2 pages).

The Regenerative Medicine theme was identified as a program that directly fits with the mission of the DHLRI. A repeat discussion of that issue is beyond the scope of this document.

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The business plan embodied in this document is the product of four hour-long planning committee meetings held on September 21, October 5 & 12 and November 02, 2005. The planning committee is made up of 14 junior and senior investigators representing the basic as well as clinical sciences. The summary plan included herewith represents the consensus of the committee.

The overall plan may be classified into two related components: (i) recruiting new investigators in the area of tissue repair and remodeling to strengthen our research position as well as our funded grant portfolio, and (ii) assessing existing strengths and re-investing in our current faculty and infrastructure to take them to the next level of productivity. It was strongly felt that this latter component has been poorly addressed since inception of DHLRI and that the re-investment component would be pivotal in aligning the constituents of the institute with the leadership.

It was felt that the \$2.5M funds be split 50-50 to support the two specific aims mentioned above. Specifically, \$1.25M (0.6K for senior + 0.3K for each junior + 0.05K for recruitment expenses ) would be allocated to hire at least one senior level faculty (at least 2RO1) and two junior level faculty (at least one NIH grant each). This program will partner with other fund sources (eg Departments) to execute such recruitment. The remaining \$1.25 M will be utilized for program development addressing the following specific goals:

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As presented in the DHLRI seminar on Regenerative Medicine in October 2005, Regenerative Medicine draws substantial national interest and funding including RFAs from major national agencies including the NIH. Institutes and Centers focusing on Regenerative Medicine have been established during the last five years to address the rapid rise in interest to regenerate injured tissues.

3. Describe plans for integration of the basic science aspects of the program with existing clinical or translational research in heart and lung disease. (limit 1 page)

The mission statement of the Regenerative Medicine program is as follows:

ELUCIDATE THE **MECHANISMS** AND UNDERPINNING PRINCIPLES THAT GUIDE REGENERATION OF TISSUES IN ORDER TO FACILITATE THE DEVELOPMENT OF NEW **CLINICAL** TECHNOLOGIES AND THERAPIES

The planning committee has identified specific areas of emphasis for programmatic development:

1. Neovascularization
2. Stem/Progenitor Cells
3. Tissue Macrophage Biology
4. Imaging and Modeling Tissue Repair

Scope for translational research:

Pulmonary (Marsh)  
Heart (Zweier)  
Wound Healing (Gordillo, Sen)  
Imaging (Kuppusamy, Sun)  
Modeling (Bergdall)

4. Describe how the Thematic Program will be used to facilitate the success of junior clinical and basic science faculty and how support will facilitate participation in the mentoring and teaching missions of the DHLRI. (limit ½ page).

The following components of the re-investment program will serves this goal:

- a. 50% salary support for postdocs to be shared between laboratories (4/y, 2y)
- b. Support to engage clinical faculty in research program building (4/y, 2y)
- c. Support of interprogrammatic core (new or upgrade of current cores)
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5. Discuss how you intend to utilize support to leverage other specific programmatic funding opportunities, e.g. SCOR, PPG, BRTT, etc. (limit ½ page).

The following components of the re-investment program will serves this goal:

- a. incentive for 3 PPG development (inter-programmatic partnership expected)
- b. 50% salary support for postdocs to be shared between laboratories (4/y, 2y)
- c. Support to engage clinical faculty in research program building (4/y, 2y)
- d. Support of interprogrammatic core (new or upgrade of current cores)
- e. Administrative support for this program (0.5 FTE)
- f. Support for sharing graduate students between laboratories
- g. Funds to facilitate rapid team response to relevant RFAs

In addition, new faculty will be recruited to specifically serve this goal.

6. Provide a priority list of the categories and specialties (if known, specific names can be provided) of faculty recruits anticipated for support. Include a brief justification. (limit 1 page).

The goal is to recruit one accomplished senior faculty and two junior faculties that specialize in specific aspects of regenerative medicine. Specific details will have to be considered as opportunities arise. In general, the goal is to recruit in the following areas:

1. Stem/Progenitor Cells
2. Vascular Biology
3. Extracellular Matrix Biology

7. Timetable and Milestones: Generate a detailed timetable for projected expenditures and accomplishments over two years. Discuss how you expect to be evaluated and by what metrics. (limit 1 page)

#### EXPENDITURES:

#### RECRUITMENT

- a. \$600 K in year 1 for a senior faculty
- b. \$300 K in year 1 for a junior faculty
- c. \$300 K in year 2 for a junior faculty
- d. \$35K in year 1 for recruitment expenses (ad, interviews etc)
- e. \$15K in year 2 for recruitment expenses (ad, interviews etc)

#### REINVESTMENT

- a. incentive for 3 PPG development (inter-programmatic partnership expected)  
year 1: \$50K x1; year 2: \$50K x2 = \$100K
- b. 50% salary support for postdocs to be shared between laboratories (4/y, 2y)  
\$25Kx4x2 i.e., \$100K in year 1 and \$100K in year 2
- c. Support to engage clinical faculty in research program building (4/y, 2y)  
\$25Kx4x2 i.e., \$100K in year 1 and \$100K in year 2
- d. Support of interprogrammatic core (new or upgrade of current cores)  
\$100K in year 1 and \$100K in year 2; this cost is from this core, expect match from other programs depending on mutual needs
- e. Administrative support for this program (0.5 FTE)  
\$35K in year 1 and \$35K in year 2
- f. Support for sharing graduate students between laboratories  
\$12.5Kx4x2 i.e., \$50K in year 1 and \$50K in year 2
- g. Funds to facilitate rapid team response to relevant RFAs  
\$25Kx2x2y i.e., \$50K in year 1 and \$50K in year 2
- h. Seed funds to junior faculty that are yet to receive their first RO1  
\$25Kx2x2 i.e., \$50K in year 1 and \$50K in year 2

#### DELIVERABLES:

##### Year 1:

1. One new senior faculty with 2RO1 or equivalent
2. One new junior faculty with one extramural grant
3. One PPG initiative started
4. At least 4-6 new partnership projects start towards larger program

Year2:

1. One new junior faculty with one extramural grant
2. Two new PPG/equivalent initiative started
3. 2-4 new RO1s/equivalent
4. 4-6 other RO1s/equivalent in process