

Netherlands Institute of Regenerative Medicine (NIRM)

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Research Areas



Basic Research

At a Glance

- Status: **Active Consortium**
- Year Launched: **2009**
- Initiating Organization: **Netherlands**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

The Netherlands Institute of Regenerative Medicine (NIRM) is an innovative and integrative life sciences research and development program. It is composed of two former research consortia in the Netherlands: Stem Cells in Development and Disease (SCDD) and the Dutch Program for Tissue Engineering (DPTE). Integration of these consortia in NIRM combines cutting-edge research in stem cell biology with advances in tissue engineering, to improve existing and create novel regenerative medical treatments. Together, these biomedical research fields involving cells and biomaterials will lead to innovative approaches to promote the regeneration of damaged or diseased tissues and organs.

Mission

NIRM focuses its research on five major tissue/disease areas: cardiovascular system, muscles and bones, blood, nervous system, and internal medicine. NIRM research begins at the level of molecules, from which important molecular genetic and epigenetic programs lead to the generation and function of stem cells that are the biological unit of the specific adult tissues. Stem cell maintenance and differentiation is, in turn, dependent upon the surrounding cells and biomolecules of the microenvironment or niche. Together, these are the basic elements that lead to the formation of the

complete tissue. In disease and/or trauma some elements are defective or damaged. Hence, this program aims to:

Impact/Accomplishment

To achieve its goals, NIRM will utilize integrated biochemical and functional genetic approaches, combining gene expression analysis, novel gene disruption technology, stem cell culture systems, and rapid monoclonal antibody production. Bioinformatics databases will be integrated using the latest three-dimensional (3-D) imaging technology and will lead to a new perception of disease processes and possible modes of repair and regeneration. Proteomics technology of the Netherlands Genomics Initiative and Erasmus Medical Center will be used to decipher the molecular makeup of connective tissues. All of this will in turn lead to validation and the subsequent formulation of novel intervention strategies for diseased and damaged tissue and great potential for clinical intervention.

Links/Social Media Feed

Homepage <http://www.nirmresearch.nl/index.html>

Sponsors & Partners

NIRM collaborates with many partners. A full list of academic (http://www.nirmresearch.nl/academic_partners_NIRM.pdf) and industry (http://www.nirmresearch.nl/Industrial_partners_NIRM.pdf) partners can be found on its website.

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