



# TRAnslational Initiative on Unique and novel strategies for Management of Patients with Heart failure (TRIUMPH)

 [consortiapedia.fastercures.org/consortia/triumph/](http://consortiapedia.fastercures.org/consortia/triumph/)

## Research Areas



### Biomarker Research

Diagnostic, Genomic Biomarker

## At a Glance

- Status: **Completed Consortium**
- Year Launched: **2008**
- Initiating Organization: **Center for Translational Molecular Medicine (CTMM)**
- Initiator Type: **Government**
- Location: **Europe**

## Abstract

Heart failure is a progressive disease with major impact on patients and society. The two major causes of heart failure are overload of the left ventricle as a result of deteriorating heart tissue and inflammation of the left ventricle. The TRIUMPH (TRAnslational Initiative on Unique and novel strategies for Management of Patients with Heart failure) project aims to identify biomarkers (both blood-based and tissue-based) that can be used to assess the level and nature of left ventricle overload, as well as the level and nature of inflammation. The objective is to identify a set of meaningful circulating and non-circulating biomarkers for which new biosensor and imaging technologies can be developed. The project consortium will then develop new point-of-care biosensor technologies that are capable of detecting the circulating (blood-based) biomarkers in a patient, which will allow physicians to measure or even predict a patient's level and degree of heart failure. The consortium will also develop novel imaging technologies that are capable of imaging noncirculatory (tissue-based) biomarkers. The discovered biomarkers and associated new technologies will be clinically validated in selected patient groups. Moreover, this will enable the treatment of heart failure patients and the monitoring of the effects of treatment much more effectively.



## Mission

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There are two major causes of heart failure: overload of the left ventricle as a result of deteriorating heart tissue and inflammation of the left ventricle. The TRIUMPH project aims to identify biomarkers that can be detected and/or imaged to serve as the basis on which the level and nature of overload of the left ventricle, as well as the level and the nature of inflammation, can be measured. Such biomarkers (or combinations of biomarkers) can be, for example, parts of a gene or genes. Therefore there is a need to look at the circulating biomarkers (e.g., the ones detected in the blood), as well as the noncirculating biomarkers (e.g., the ones present in the heart tissue).

The most promising biomarkers discovered by AZM, Organon, University Medical Center Utrecht, Academic Medical Center Amsterdam, and LeadPharma in several types of genomics will be further selected by means of arithmetical and statistical analysis followed by validation in preclinical models. This will result in a set of circulating and noncirculating biomarkers, which will serve as the basis on which new biosensor technology and imaging technology are developed.

Philips together with TU/e will develop a new point-of-care biosensor technology that is capable of detecting the circulating biomarkers in a patient (noninvasively) and will serve as the basis on which the physician can measure or even predict the level and degree of heart failure of a patient. Both partners will also develop novel imaging technology, capable of imaging in three dimensions the noncirculatory (tissue-related) biomarkers that have passed the validations. The biomarkers that can be imaged can also be used for the targeted delivery of therapeutic agents. Novel microspheres will be prepared by DSM from biocompatible, biodegradable polymeric materials and will be equipped with imaging labels (to enable monitoring of their local delivery). Finally, the discovered biomarkers and associated biosensor and imaging technology will be clinically validated by the University Medical Center Groningen and the EMC in specially designed and selected patient groups. The new biosensor and imaging technology developed by the TRIUMPH project will provide physicians with unprecedented possibilities in management of heart failure patients. It enables detection of risk for heart failure earlier and more accurately and reliably than currently possible. Moreover this new technology enables treatment of heart failure patients and monitors the effect of these treatments much more effectively.

## Consortium History

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The project duration was 2008 to 2013.

## Financing

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The total project budget was €19.6 million. The government contribution was €9.1 million.

## Links/Social Media Feed

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Other website <http://www.ctmm.nl/nl/downloadsnl-pdf/volledig-programma-artikel-pdf/full-article-on-project-triumph>

## Points of Contact

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Principal Investigator: Y. Pinto  
CTMM Program Manager: Erna Erdtsieck-Ernste

## Sponsors & Partners

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Academic Medical Center Amsterdam  
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