



Chiba/Tokatsu Area

Discovery and Industrial Application of Bio Seeds in Relation to Health Science

Chiba Industry Advancement Center
 WBG Marive East 23F, 2-6 Nakase, Mihama-ku, Chiba City
 Chiba 261-7123 JAPAN
 Tel: +81-43-299-2653

Core Research Organizations

Chiba University, Graduate School of Frontier Sciences The University of Tokyo
 Tokyo University of Science

Major Participating Research Organizations

Industry...BIO MATRIX RESEARCH, INC., SAKAGUCHI GIKEN co., Ltd., SEIKO Precision Inc
 Academia...Chiba University, Graduate School of Frontier Sciences The University of Tokyo, Tokyo University of Sciences
 Government...National Institute of Radiological Sciences, CHIBA CANCER CENTER, Research Center for Innovative Oncology - National Cancer Center Hospital East

Typical result of City Area Program

1. Development of versatile microscope offering high-speed image acquisition

Although digital imagery is fully utilized for the pathology research in the United States as well as Europe, such digital images are rarely useful in the field because it requires long time to obtain such image in Japan. In this research and development, the system, in which it is possible to efficiently incorporate the image data of wide area into the computer has been developed and has been applied to optical microscope. A program, multifocus displaying software with virtual-microscope, which enabled us to viewing digitized data as real microscope image has also been developed. This technology has possibility to replace microscopic analysis with digitized images.

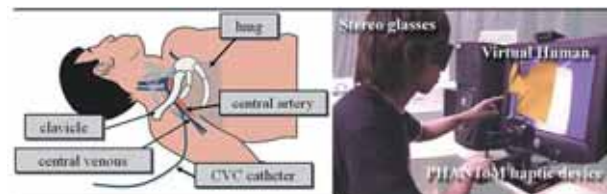


Multifocus display software

2. Development of high sensitivity gene chip

Trials to improve current DNA chip technologies produced several successful results including the improvement of the sensitivity in order of magnitude as well as minimizing the starting materials also in order of magnitude. This development will contribute not only to transcriptome analysis but also to wide range of medical research as well as to drug discovery research.

As prototype manufacturing projects, "Subclavian central vein puncture training system" and "Neural multifunction-screening machine" has been developed by the cooperative efforts of Research Center for Frontier Medical Engineering of Chiba University that was the research facility of first-ever national. These two products gained high acclaim.



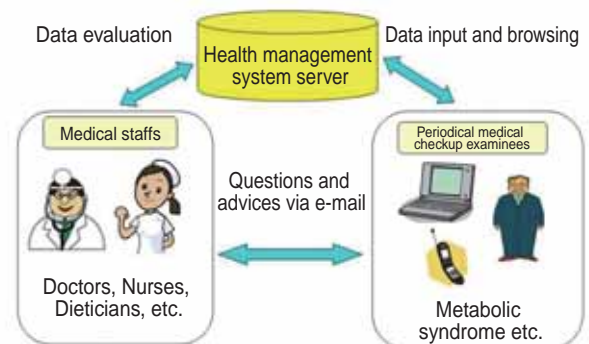
Subclavian central vein puncture training system

About the approach after the project

Promotion of the general type joint research business

The development of new instruments for the early diagnosis and the prevention of lifestyle diseases and the construction of a predictive diagnostic system and a health support network system are important issues to consider today, as the lifestyle diseases now represent a major part of the disease in Japan. By utilizing the combined technologies accumulated in this area including medicine, pharmacology, genome science, engineering and IT in addition to previously obtained basic technical results, new business theme "Dual Approach for Preventing Lifestyle Disease by Genome Health Science" was established and these business theme consisting of 2 projects was adopted as a general type joint research business (Fiscal Year 2005-2007). These two industry-academia-government joint research projects are as follows.

Bidirectional Health Care Support System



Bidirectional Health Care Support System

1. Development of personalized health care support system and devices that use combined technologies towards overcoming matabolic syndrome and lifestyle diseases

2. Development of innovative and noninvasive expectation diagnostic system and new drug discovery target against lifestyle diseases by novel antibody micro array microarray and protein synthesis system