

# G-DEMANDE

Development of an electronic platform based on intelligent agents capable of diagnosing critical situations for patients with gestational diabetes.

## Realization

Michael Schumacher  
Stefano Bromuri  
René Schumann  
Johannes Krampf

## Information

michael.schumacher@hevs.ch  
aislab.hevs.ch

## Keywords

- Gestational diabetes
- Chronic disease
- Intelligent agents
- Information system

## Our skills

Formalisation of medical knowledge

## Valorization

Development of a system for diabetes type 1 and 2

## Partnership

- Centre Hospitalier Universitaire Vaudois Lausanne (CHUV)

## Funding

Nano-Tera

## Schedule

09/2010 – 01/2013



**Klara Schulz** Change patient...

Week of pregnancy: 26    Date of birth (Age): 19.10.79 (32)    Caretakers: Juan Ruiz    New Alerts: 2

**General**   **Contacts**   **Alerts**   **Tables**   **Graphs**   **Treatments**

23.01.12 08H46    6 daily glucose measurements recommended. Show values

23.01.12 10H04    Pre-eclampsia with 93.5% probability. Show values

Symptoms and blood pressure values causing alert

Observation time	Symptom
21.01.12 18H53	dyspnea
23.01.12 15H02	blurred vision

Observation time	Systolic blood pressure [mmHg]	Diastolic blood pressure [mmHg]	Pulse [bpm]
19.01.12 17H42	138	86	77
20.01.12 08H42	137	91	81
20.01.12 18H25	141	87	79
21.01.12 08H52	144	92	81
21.01.12 18H20	142	90	79
22.01.12 08H43	147	92	77
22.01.12 18H14	142	93	78
23.01.12 09H26	144	97	82

Close



G-DEMANDE develops an IT solution for the diagnosis of critical situations for patients with **gestational diabetes**, a condition occurring during pregnancy due to increased insulin resistance.

Even though the condition itself is easy to manage, treatment can be improved through **daily monitoring** of the glucose level and blood pressure by means of an electronic device. This provides the medical staff with all the relevant medical data. The continuous collection of information can facilitate the adjustment of the treatment during pregnancy and the generation of automatic alerts if the intelligent system diagnoses abnormal situations. The developed system thus becomes a decision-aid tool for medical staff (which cannot be replaced though).

For this project aimed at monitoring the evolution of chronic diseases such as gestational diabetes, the Institute uses **intelligent agents**, i.e. programmes capable of reasoning and of automatically carrying out tasks, based on the knowledge of the medical staff.

The application will be tested with a few patients of the University Hospital (CHUV) in Lausanne to evaluate the **medical relevance** of this approach. In future, the Institute is planning to develop similar information systems for diabetes type 1 and 2.