## A data mining platform for systems biology and biomarker discovery

Olivier Stern<sup>1</sup>, Raphaël Marée<sup>2</sup>, Christophe Van Huffel<sup>3</sup>, Jean-François Laes<sup>4</sup>, Carine Michiels<sup>5</sup>, Lionel Flamant<sup>5</sup>, Véronique Mainfroid<sup>6</sup>, Daisy Flamez<sup>7</sup>, Louis Wehenkel<sup>1</sup>, Pierre Geurts<sup>1</sup>

(1) Department of Electrical Engineering and Computer Science, GIGA-Research, ULg, (2) GIGA Management, Bioinformatics Platform, ULg, (3) KeyMarker project - BioWin, Namur, (4) DNAvision SA, Gosselies, (5) Unité de Recherche en Biologie Cellulaire, FUNDP, Namur, (6) Eppendorf Array Technologies SA, Namur, (7) Laboratory of Experimental Medicine, ULB



## Motivation

The general goal of this research is to develop a bioinformatic strategy to discover new candidate biomarkers for some specific disease, by integrating biological knowledge available in public databases and experimental data related to this disease obtained from high-throughput instrumentations, such as transcriptomic (microarray), proteomic (mass spectrometry), and genomic (SNP) data. The resulting strategy will be implemented in a generic and flexible software platform that will allow biologists to easily instantiate this strategy on their own datasets. This research is part of the Keymarker project (Biowin), whose general goal is to identify biomarkers for molecular imagery.

