# French EMBnet node: AGM2011 report

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The Réseau National des plates-formes en Bioinformatique (ReNaBi) is the French EMBnet node since 2008. Present head of ReNaBi is Claudine Médigue (Génoscope, 2 rue Gaston Crémieux, 91057 Evry Cedex)[1] and its delegate for EMBnet is Guy Perrière. This structure is a national network of six regional bioinformatics centres, each centre gathering a variable number of individual platforms (PFs).
URL: http://renabi.genouest.org/

## Presently, those centres are:

APLIBIO[2]– Coordinator Ivan Moszer. The APLIBIO regional centre currently brings together eight PFs located in Paris (Institut Curie, GENATLAS, Institut Pasteur, RPBS) and in the Paris area (eBio, MicroScope, MIGALE, URGI) with a staff of 80 people.

PRABI[3] – Coordinator Guy Perrière. The regional platform PRABI currently gathers five PFs located in the Rhône-Alpes region (PRABI-Doua, PRABI-Gerland, PRABI-Lyon Sud, PRABIG and INCa-Synergie) with a staff of 25 people.

ReNaBi-GO[4] – Coordinator Olivier Collin. The ReNaBi-GO regional centre currently gathers three PFs located in the western of France (GenOuest Rennes, ABiMS Roscoff, BiRD Nantes) with a staff of 20 people.

ReNaBi-NE[5] – Coordinator Maud Pupin. ReNaBi-NE currently gathers five PFs located in the North-East of France (CIB in Lille, BIPS in Strasbourg, MBI and SIDR in Vandoeuvre-lès-Nancy, Reims bioinformatics PF), with a staff of 39 people.

1   http://www.genoscope.cns.fr/spip/spip.php?lang=en
2   http://renabi.genouest.org/platforms/aplibio/
3   http://www.prabi.fr/
4   http://renabi.genouest.org/platforms/renabi-grand-ou-est/
5   http://renabi.genouest.org/platforms/renabi-nord-est/

ReNaBi-SO[6] – Coordinator Christine Gaspin. The ReNaBi-SO regional centre brings together 30 people from teams, platforms and a biotechnology company (BIOGEMMA) located in Toulouse and Bordeaux.

ReNaBi-GS[7]– Coordinator Olivier Gascuel. The ReNaBi-GS regional centre currently gathers four PFs located in the South of France (IGS Marseille, CAZy Marseille, IMGT Montpellier, and ATGC Montpellier, Nice and Perpignan) with a staff of 42 people.

There is a long established practice of collaborative work amongst the different PFs that has always been strongly encouraged by ReNaBi, with the support of IBiSA (Infrastructures en Biologie Santé et Agronomie[8]), a French agency in charge of funding PFs for biological research. For instance PFs from the PRABI and ReNaBi-GS regional centres have developed phylogeny-related tools. Pipelines to compute multiple alignments, build trees and view the results have been integrated and made available in the form of a phylogeny service[9]. Another project, RNAspace[10] has brought together three PFs from the regional centres ReNaBi-SO, APLIBIO and RENBI-NE with the aim of developing an integrated tool for annotating small non coding RNAs.

From a more technological standpoint, the BioMAJ project[11]has gathered together the PFs from ReNaBi-GO and APLIBIO for working on the development of a fully automatic management system for biological databanks (*i.e.,* update cycle and supervision of bank repositories mirrored on local servers ). Several PFs from different regional centres (APLIBIO, ReNaBi-GO and ReNaBi-GS) are involved in the MobyleNet project[12]that aims at facilitating the interoperability of specialised tools through the provision of a network of web portals.

One important assignment of ReNaBi consists in optimising and rationalising the use of computing facilities on a national scale. The GriSBi initiative (Grid Support for Bioinformatics[13]) has as principal objective to federate the computing resources of the French bioinformatics platforms

in a distributed infrastructure for the bioinformatics community at the national level. It involves a number of PFs from ReNaBi-SO, ReNaBi-GO, ReNaBi-NE, PRABI and APLIBIO, and is supported by the national coordination of French grid initiatives (Institut des Grilles[14]).

Collaborative methodological developments also extend to "neighbour" fields. For instance, the ProteHome project[15] groups two bioinformatics PFs (from APLIBIO and PRABI) and three proteomics PFs (located in Rennes, Toulouse and Grenoble). The project purports to provide services and resources to the scientific community involved in proteomics analyses.

Owing to the fact that ReNaBi gathers many PFs that have a broad range of activities, the computing services offered cover the whole spectrum of bioinformatics:

- access to primary or specialised sequence databases;
- alignment and similarity search programs;
- general sequence analysis packages;
- biostatistics packages;
- molecular phylogeny and molecular analysis programs;
- tools for proteomics and transcriptomics data analysis;
- tools for protein structure prediction and modelling;
- Next Generation Sequencing (NGS) specific programs and pipelines.

All the platforms are independent, for this reason it is not possible to give a global financial assessment. The ReNaBi itself receives an yearly funding of € 50,000  from IBiSA in order to support the organisation of workshops, conferences or thematic networks. For the 2011-2015 time frame, the ReNaBi will receive an extra support of € 5,000,000 from the ANR (Agence Nationale de la Recherche[16]), the main national funding agency for research, for NGS data analysis. This funding will be distributed to the six regional centres listed above.

As for machines available accross ReNaBi, because of to its network structure, it is difficult to give the complete list. Standard equipment for a typical ReNaBi regional centre consists usually in a medium size computing cluster with about 300-700 cores, a few disk servers, and a large set (of variable size) of micro-computers.

6    http://renabi.genouest.org/platforms/renabi-sud-ouest/
7    http://renabi.genouest.org/platforms/renabi-grand-sud/
8    http://www.ibisa.net/
9    http://www.phylogeny.fr
10   http://www.rnaspace.org
11   http://biomaj.genouest.org/
12   http://mobylenet.rpbs.univ-paris-diderot.fr
13   http://www.grisbio.fr

14   http://www.idgrilles.fr
15   http://www.grenoble-prabi.fr/protehome
16   http://www.agence-nationale-recherche.fr/en/