

Several positions are now available into the Scaled Acoustic Biodiversity Project

<http://sabiod.org>

- PhD scholarships (with or without industrial collaboration),
- Internships (master...),
- Postdoc positions,
- Engineer positions.

The goal of these positions is to improve the current performance of soundscape / bioacoustic pattern detection and classification, at low signal to noise ratio, and/or into large data set (Big Data paradigm).

Thus, the objectives here are three-fold: (a) to make the signal representation more robust, (b) to develop classification model more efficient on complex bioacoustic patterns, with supervised but also unsupervised approaches, and (c) to manage and collect additional training data to better model the variability of object categories (within some terrestrial or submarine recording experiments).

The frequent representations are either based on Fourier descriptors or MFCC. However we design mid-level or high-level features based on time-frequency segmentation, wavelet and discrete decomposition, compress sensing, non parametric bayesian representation, CNN / DNN.

The validation of the models are conducted from cetaceans to birds songs, bats to dolphins biosonars, from frogs to insects calls. Biodiversity analysis and environmental care projects are some of the direct outcomes of this research. You'll develop high level research, and you may collaborate with some industry, which could afterward offer you a permanent position in addition to academic opportunities.

* Your profile:

- Machine learning / Data Science or Applied Mathematics / Computer Science, or Electrical Engineering / Signal Processing,
- Solid mathematics knowledge (especially linear algebra and statistics),
- Creative and highly motivated, good programming skill (Python, Matlab, C,...),
- Fluent in English, both written and spoken,
- Prior knowledge in the areas of pattern recognition is a plus.

* Duration:

Internship: 3-6-9 months,

Phd: 3-4 years,

Postdoc: 1-2 years,

Engineer: 1-2 years.

Start date: As soon as possible.

Internship candidate would continue with a PhD.

* Location:

Current positions are available on the French Riviera, university of Toulon - CNRS lab LSIS heading SABIOD, France. Your research will be conducted within collaborations, like National Parks (Port-Cros), international labs (in Italy, USA, Germany, Spain, Canada, Australia, UK...), and may include outdoors signal experiments on cetaceans, birds... Worldwide collaborations offers real opportunities to travel (Reunion, New Caledonia, USA, Canada). One of the position is related to La Réunion bioacoustic survey in Indian Ocean, another one in Pacific Ocean.

* Application:

Please send your application via email to [Pr Glotin](mailto:Pr.Glotin), Sabiod PI, [glotin \(at\) univ-tln.fr](mailto:glotin@univ-tln.fr), in one single .pdf file, including: your complete CV + grades during education (and for postdoc two of the main publications) + at least on letter of reference.