



**Ketos Scientific Association**  
**1997-2010, Cetacean research and conservation**  
**in the Ionian sea and Strait of Sicily**



**Visual census of cetaceans triggered by LIDO alerts**

**Proposal for a common framework**



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## **What is KETOS?**

**KETOS** is a no-profit scientific association, born in 1997, carrying on his research activities autonomously and/or in cooperation with other research organizations or Universities, especially focusing on cetaceans. Furthermore KETOS is involved in outreach and dissemination activities like workshops, meetings and conferences, aiming at preservation of marine wildlife and promotion of more responsible approach to this ecosystem.

Since 1997 **KETOS** no-profit Scientific Association has been working and doing research on cetaceans, in the area between the Strait of Messina and the Sicily Channel, focusing on those areas poorly investigated by research activities



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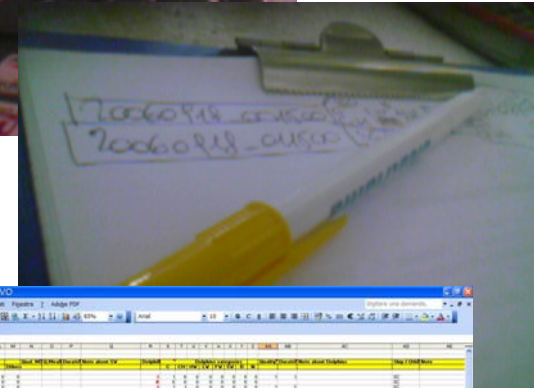
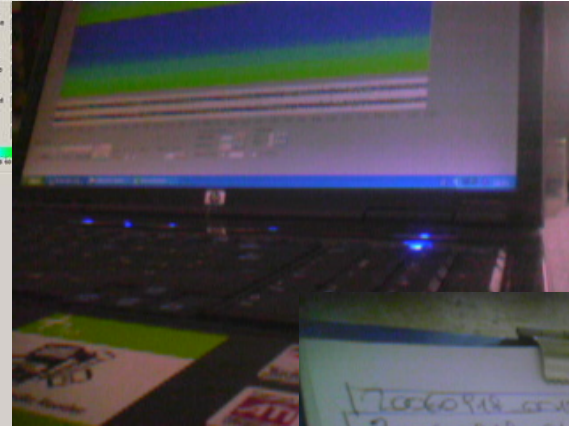
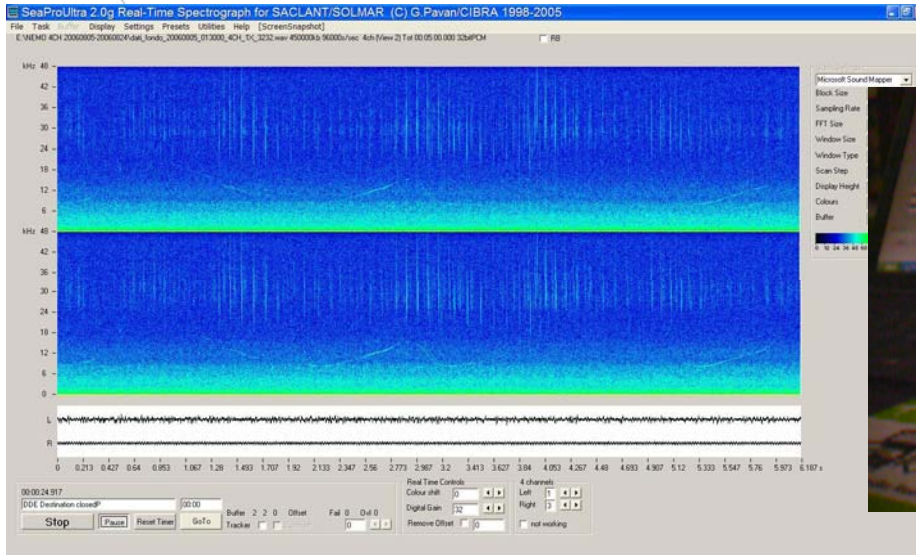


**KETOS** have been carrying on 10 years of research on phenomena of cetacean interaction with traditional fisheries within the area of the gulf of Catania, leading to a good knowledge of the population of bottlenose dolphin (*Tursiops truncatus*) living in the gulf.



Since 2004 the **KETOS** is focusing its research activities also in south-western Ionian sea and Sicily channel to carry on a study on the presence of Fin whales (*Balaenoptera physalus*) in this area particularly in the period between February and April.

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Between 2006 and 2008 we have been cooperating with **INFN** and **CIBRA** for the analysis of bioacoustical data coming from NEMO-OnDE experiment. People from the KETOS' staff have been participating to the first phase of raw data analysis listening to recordings and extracting the first rough data on cetacean presence and noise levels.



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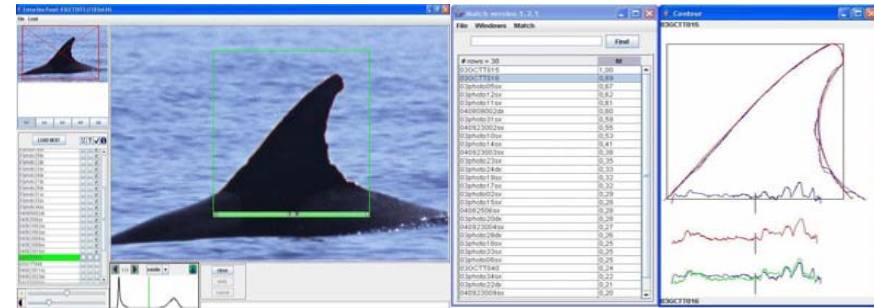
## **What KETOS would do within LIDO?**

The principal aim of KETOS within **LIDO** would be to set up and coordinate a team of at least five biologist in order to:

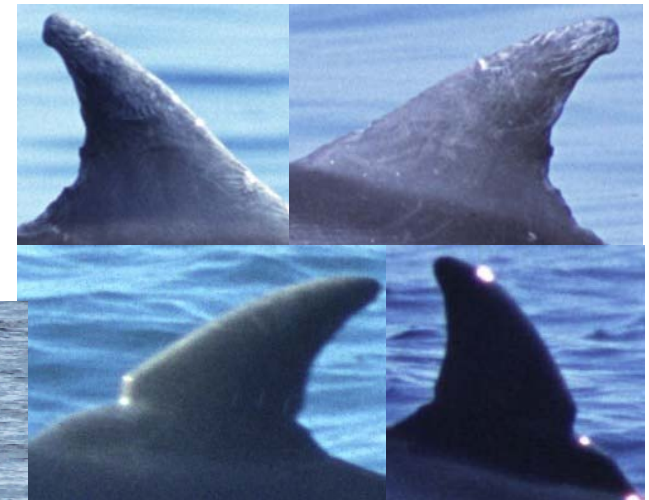
- analyze (near) real-time bioacoustics data provided by the LIDO deep seawater station;
- test recognition and classification algorithms developed within the LIDO project (**CIBRA, LAB**);
- study of acoustic noise induced by ship traffic and human-operated devices and the effect of this noise on the cetacean's population;
- Match acoustic data with visual census;
- Cooperating with CIBRA, LAB and all of those partners of LIDO dealing with bioacoustics;
- Provide coordination and support for students (biology, environmental science and so on) interested in cooperating for theses and PhD

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Matching real-time bioacoustic data to visual census would allow an improvement in knowledge of cetacean population in the area, especially focusing on those species whose distribution is still poorly known in the area, like sperm whales. The visual census would be done with the Photo-ID method which is based on the identification of each animal by natural marks on their body, usually for sperm whales marks in the tail are taken in consideration.



Examples of photo processing





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## **Cooperations**

**KETOS** cooperates with **Dept. of Animal Biology** and **Dept. of Biomedical Science of the University of Catania**. We have conventions with **Faculty of Mathematical, Physical and Natural Sciences** respectively of the university of **Catania and Trieste**.

Obviously with the **INFN-LNS** and **CIBRA**, for all that part concerning bioacoustic data analysis.

In the past we have been cooperating also with:

- **University of Messina**
- **University of Pavia, CIBRA (Interdisciplinary centre for bioacoustical and environmental research)**
- **Centro Studi Cetacei, (Italian national stranding network)**
- **University “la Parthenope” of Naples**
- **Stazione Zoologica “Anton Dohrn” of Naples**
- **Assessorato Regionale Agricoltura e Foreste ripartizione Faunistico Venatoria Ambientale di Catania**

**LIDO Demo Mission Meeting, 13-14 January 2010, LNS Building - Port of Catania**



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Moreover KETOS would like to set up a cooperation between Università degli Studi di Catania, INFN-LNS and **Regione Sicilia** to raise up fundings for studentships and for “Biologist team”.

Between 2007 and 2008 KETOS has already been in partnership with **Regione Sicilia** and “Dipartimento di Anatomia, Patologia diagnostica, Medicina legale, Igiene e Sanità pubblica “G. F. Ingrassia” dell’**Università degli Studi di Catania**” in the project “*Studio delle popolazioni di cetacei e cheloni vivi e spiaggiati lungo la costa ionica della provincia regionale di Catania*” (“*a study on cetaceans and sea turtles populations living and stranded along Catania provincial coast*”).





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