

## Semi-automatic Measure and Identification of Allergenic Airborne Pollen (2014)

Título: Semi-automatic Measure and Identification of Allergenic Airborne Pollen

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DOI: [http://dx.doi.org/10.1007/978-3-662-44654-6\\_27](http://dx.doi.org/10.1007/978-3-662-44654-6_27) Lugar: Island of Rhodes, Greece Año: 2014 (19 - 21 de Septiembre) Abstract: Current lifestyle in developed countries makes the practice of outdoor activities to be almost mandatory. But, since these practices such as trekking, biking, horseback, or simply running or walking in urban parks, are made in nature (at least outdoors) not everyone can practice them in optimal physical conditions at any time of the year. We are referring to those who suffer from pollinosis or "hay fever".

This work presents the first stages in the development of a semiautomatic system for counting and identifying airborne pollen, using artificial intelligence techniques for recognizing four of the most representative allergenic pollen types. The system consists of a first stage for the location of pollen grains in the slides, and a second whose goal is the identification using Independent Component Analysis (ICA) and neural nets or SVM. The overall success results achieved with our system are about 88%, averaging for all classes.