

## Medical Electronics - Project topics 2012/2013

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### I. Electronics (3 persons in a group)

1. DIY electro-oculograph
2. DIY electronic stethoscope (-)
3. DIY PC thermometer
4. DIY lie detector (-)
5. DIY pulse oximeter
6. DIY snore alarm electronic device  
(<http://chabin.laurent.free.fr/ronfleur/ronfleur.htm>)

### II. Image processing (2 persons in a group)

1. MR image segmentation (-)
2. Person authentication based on fingerprint images (Physionet.org) (-)
3. Person authentication based on iris images (Physionet.org)
4. Segmentation of lung nodules in chest X-ray images  
(<http://www.via.cornell.edu/databases/>)
5. Liver tumor segmentation from CT images (<http://www.via.cornell.edu/databases/>)

### III. Signal processing (2 persons in a group)

1. Scanpath analysis during reading using EOG (BIOPAC) (-)
2. ECG-based measurement of fatigue (BIOPAC) (-)
3. EEG-based relax state detection (BIOPAC) (-)
4. EEG-based sleep disorder analysis (Physionet.org) (-)
5. Stress recognition among drivers (Physionet.org) (-)

(-) – projects already reserved