Device for the automatic classification of renal calculi

Summary

Two Catalan research groups with strong expertise in chemistry separation techniques and computer vision have developed a device for the automatic classification of renal calculi by computer vision in patients with high recurrences of kidney stones episodes. The groups are seeking companies for license agreement to bring the device to the market.

Details

Description

Kidney stones are of different types according to chemical components and their spatial distribution. About 12% population develops a kidney stone and kidney stone episodes are highly recurrent. The knowledge of the stone class reduces recurrence to a half. Currently, stone classification requires either infrared chemical analysis or and expert, and it is expensive and takes time.

Two Catalan groups focused on computer vision and chemical separation techniques have developed a device for the visual classification of kidney stones by computer vision for the urologists. It's a desktop system based on a small image acquisition device (Fig.1) plus a classification software running on a PC or as a service in the cloud. A kidney stone is introduced after cutting it. A snapshot is taken from both interior and exterior fragment sides. The information is processed on the servers and the user receives back the classification results and a diet recommendation report for the patient.

The groups are looking for companies working in the urology sector for license agreement to bring the technology to the market.

Advantages and Innovations

- Automatic desktop device PC software for the urologists.

- High resolution (more than 80%) of the system.

- High sensitivity of renal calculi classification.

- Provides accurate results that might be associated to dietary recommendations to the patients.
- Rapid generation of results in few minutes.

**Stage of Development**

Prototype available for demonstration

**IPR Status**
Patent(s) applied for but not yet granted

**Comment Regarding IPR status**
PCT application

**Profile Origin**
National R&D programme

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**Keywords**

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**Dissemination**

Send to Sector Group
Healthcare

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**Client**
Type and Size of Organisation Behind the Profile
University

Year Established
0

Already Engaged in Trans-National Cooperation
Yes

Languages Spoken
English
Spanish

Client Country
Spain

Partner Sought

Type and Role of Partner Sought
- Type of partner sought: pharmaceutical and medical equipment companies
- Specific area of activity of the partner: urology
- Task to be performed by the partner sought: final steps to commercialize the device

Type of Partnership Considered
License agreement