

Title (en)

A ROBOT SYSTEM ARRANGED FOR AUTONOMOUSLY OBTAINING BIOLOGICAL SURFACE SAMPLES FROM A PATIENT

Title (de)

ROBOTERSYSTEM ZUR AUTONOMEN GEWINNUNG VON BIOLOGISCHEN OBERFLÄCHENPROBEN VON EINEM PATIENTEN

Title (fr)

SYSTÈME ROBOTIQUE CONÇU POUR OBTENIR DES ÉCHANTILLONS BIOLOGIQUES DE SURFACE DE FAÇON AUTONOME SUR UN PATIENT

Publication

**EP 3909515 A1 20211117 (EN)**

Application

**EP 20174694 A 20200514**

Priority

EP 20174694 A 20200514

Abstract (en)

The invention relates to a method for controlling an apparatus (100) for taking biological surface samples of a test surface of a patient, the apparatus comprise a motorized multi-degree of freedom motion system (101) which is connectable with a tool holder (102), wherein the tool holder is configured to hold a sample probe (103) for obtaining the biological sample, a vision system arranged to provide image data, and a control system for controlling the motorized multi-degree of freedom motion system based on the image data, the method comprises setting the sample probe in an initial position, obtaining an image of the test surface during an identification period, determining probe motion data based on the image data of the image, controlling the motorized multi-degree of freedom motion system to move the sample probe until contact with the test surface is determined, and controlling the motorized multi-degree of freedom motion system to move the sample probe while maintaining contact with the test surface based on the probe motion data.

IPC 8 full level

**A61B 10/00** (2006.01); **A61B 10/02** (2006.01); **A61B 17/00** (2006.01); **A61B 17/24** (2006.01); **A61B 34/00** (2016.01); **A61B 34/20** (2016.01); **A61B 34/32** (2016.01); **A61B 90/00** (2016.01)

CPC (source: EP)

**G04B 15/08** (2013.01); **G04B 15/14** (2013.01); **G04B 43/00** (2013.01)

Citation (search report)

- [Y] US 2019239969 A1 20190808 - ABU-AKEEL HADI [US], et al
- [A] US 2015057675 A1 20150226 - AKEEL HADI [US], et al
- [X] US 2018325499 A1 20181115 - LANDEY CASEY TEAL [US], et al
- [Y] US 4178810 A 19791218 - TAKAHASHI NAGASHIGE [JP]
- [A] US 4235245 A 19801125 - NAITO MASAYOSHI [JP]
- [Y] SHAWN HUNT ET AL: "Computer assisted robotic examination swab sampling (CARESS)", PROCEEDINGS OF SPIE, vol. 6962, 3 April 2008 (2008-04-03), US, pages 696200, XP055738147, ISSN: 0277-786X, ISBN: 978-1-5106-3798-6, DOI: 10.1117/12.783229

Cited by

CN114916964A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3909515 A1 20211117**; WO 2021228813 A1 20211118

DOCDB simple family (application)

**EP 20174694 A 20200514**; EP 2021062419 W 20210511