

附件一、技術推廣表



手持式骨科手術機器人

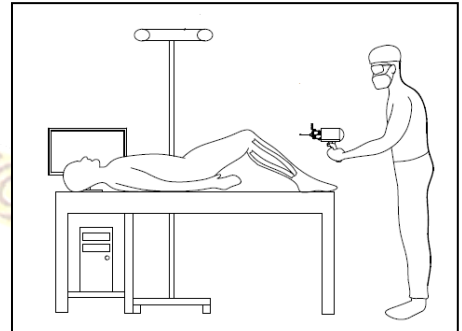
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單位：國立臺灣大學 生物產業機電工程學系

簡歷：

2012~ 台大生機系 副教授

2009~2012 台大生機系 助理教授



市場及需求：

手術機器人在 2014 年的全球產值到達 US\$1,317 million，雖然相較於 2013 年有小幅下降 5%，但隨著高齡化社會的來臨，與日俱增的醫療需求將是市場擴大的驅動力，特別是骨科手術市場，更是逐年增加，相對應的醫材市場也大幅成長。

技術摘要：

本技術是開發骨科手術應用之手持式機器人系統，結合醫學影像處理系統與機器人精準定位的能力，可提供骨科醫師執行手術得到更安全、精準與快速的手術結果。

優勢：

本技術的優勢在於整體體積小，解決手術室空間配置的問題，操作容易與簡化手術流程，因而縮短手術時間。

競爭產品：

目前市面上有 Mako 公司用於膝關節重建的 Rio 系統，以及 Mazor 公司用於脊椎手術的 Renaissance 系統。

專利簡述：

(1)本技術相關專利：骨科手術之手持式機器人系統(中心案號:12A-131011TW0、12A-131011US0、12A-131011EU0、12A-131011CN0)，正進行台灣、美國、大陸與歐盟等國家的專利申請。

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Handheld robot assisted surgical system

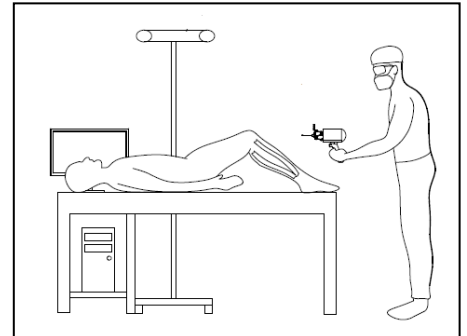
PI : Dr. Ping-Lang yen

Department of Bio-Industrial Mechatronics
Engineering, National Taiwan U.

Experience:

2012~ Associate Professor, NTU

2009~2012 Assistant Professor, NTU



Market Needs:

Medical robots are the most valuable service robots with an average unit price of about US\$ one million, including accessories and services. Although sales of medical robots decreased by 5% compared to 2013 to 1,224 units in 2014, the overall value of sales of medical robots still reach the amount US\$1,317 million. As society enters elderly, more demands for robot assisted surgery will increase.

Our Technology:

The solution is a handheld robot assisted surgical system for orthopedics applications. The technology combines both medical image process and precision positioning of the robot to achieve safe, fast and accurate bone cutting during the operation.

Strength:

The solution offers the advantages of small footprint in crowded operation room, easy to operate and enhanced safety for orthopedic procedure. Compared with the current solutions in the market, our solution can effectively shorten the operation time from the simplified workflow.

Competing Products:

There are several similar systems in the market, such as Rio system for knee surgery from Mako, Renaissance system for spinal surgery from Mazor.

Intellectual Properties:

A related patent has been filed to Taiwan, US, Europe and China in 2014 for intellectual property protection.

Contact:

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