

IDPhone: Point-of-Care Diagnosis of Infections and Antibiotic Resistance

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Technology description

The IDPhone is a point-of-care diagnostic device that attaches directly to a smart phone or tablet and identifies infectious bacteria and their resistance to an array of antibiotics.

The development of antibiotics is considered one of the greatest medical innovations, saving millions of lives annually throughout the world. For the last 70 years, antibiotics have been widely used to treat and prevent many infectious diseases. However, the prevalent overuse and misuse of antibiotics is a significant cause of the evolution of antibiotic resistant bacteria. If the growth of resistant bacteria outpaces the development of new effective antibiotics, current medical procedures such as transplants, chemotherapy and routine surgeries could pose a significant risk of death or serious illness.

Smarter and more efficient use of antibiotics is essential to slow the growth of antibiotic resistant bacteria. In order to help individuals and caregivers use antibiotics more efficiently and effectively, the IDPhone provides point-of-care identification of infectious bacteria their resistance to an array of antibiotics. The IDPhone easily attaches to a smart phone or tablet and utilizes the device' s camera to provide rapid test results. This near instantaneous identification of bacteria allows the patient to receive a more effective and tailored treatment, significantly reducing the unnecessary use of broad spectrum antibiotics.

Keywords: Physical Sciences, Computer Hardware, Input devices, New, Mobile Device, New, Mobile App, Image Processing, Optics & Photonics, Measurement, Visual Enhancements, Engineering, Electrical Engineering, Computer Science, Computer Engineering, Biotech Research & Production Tools, Assays & Screening, Infectious Diseases, Medical Devices, Medical Diagnostics (in Vitro) , Point of care specific tests

Additional Information

Mehta, Saurabh; Erickson, David; Lee, Seoho. Device And Method For Point-of-Care Diagnostics And Antibiotic Resistance Identification, And Applications Thereof.

Application area

Point-of-care diagnostic device to identify infectious bacteria and antibiotic resistance

Advantages

Rapid test results

Requires only a few simple steps

Inexpensive attachment to existing technology

Institution

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