Next Gen Diagnostics CEO Paul Rhodes Announces Formation of UK Subsidiary, Next Gen Diagnostics UK, Ltd.

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Next Gen Diagnostics announced today the formation of its UK subsidiary, Next Gen Diagnostics UK, Ltd. NGD is expanding an office and bioinformatics group based in Cambridge, on the West Campus of the University of Cambridge, where it has developed the field's most automated integrated pathogen bioinformatics suite and machine learning system. The Cambridge group includes co-founder Professor Julian Parkhill, FRS, of the University of Cambridge along with a growing team of bioinformatics developers, data and ML experts.

"NGD has developed and put in use the field's most advanced and complete bacterial WGS bioinformatics suite, fully automating transmission detection, outbreak characterization and antibiotic resistance prediction," said Paul A. Rhodes, PhD, NGD's founder and CEO. "The entire array of information, validated in a series of published studies[1,2], is provided to users in an intuitive web-based interface that is automatically populated overnight with the information generated from each sequencing run. Our sequencing lab's rapid turn-around and uniquely low-cost enable this information to be at the fingertips of infection control and infectious disease services fast enough to have a real-time impact on hospital infection control."

NGD is able to offer a complete bacterial WGS service, including extraction, library preparation, sequencing and bioinformatics at a price below PCR panels because of the cost advantages of its microfluidic sample preparation system. This proprietary system enables library preparation for up to 48 distinct strains to be processed in a disposable the size of a single plate, in a fully automated fashion. An instrument the size of a desktop computer replaces the dining table-sized robots used to automate sample preparation in competing services, with microfluidic reaction chambers less than a uL in volume enabling reduction in the consumption of costly reagents, greatly reducing sample preparation costs.

"NGD's bioinformatic system was applied at Addenbrooke's Hospital in Cambridge in tandem with prospective sequencing to detect transmission and guide intervention, where it was documented to have stopped an outbreak[1]," noted Dr. Rhodes. "We make prospective sequencing practical as the new paradigm for the detection of transmission and prevention of outbreak in hospitals, where transmission of drug resistant infection is a cause financial cost to all stakeholders as well as the human cost of needless mortality."

"We have demonstrated using large-scale pathogen WGS that an appalling number of transmission cases go undetected[3], and that prospective WGS can catch them[2], helping infection control teams prevent further transmission and curtail outbreaks," said Professor Parkhill. "I am very glad to see NGD's systems bringing these capabilities into hospital practice for patient care."

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[1] Reported in Brown et al, Journal of Clinical Microbiology 2019
[2] Reported in Raven et al, mSphere 2022
[3] Coll et al, Science Reports 2017

About Next Gen Diagnostics

NGD, founded by Dr. Paul A. Rhodes along with Sanger Institute group leaders, has built and validated world-leading automation of pathogen bioinformatics enabling high throughput low cost clinical use of WGS. In addition, NGD holds the exclusive rights to a unique microfluidic sample preparation system for clinical and commercial applications of pathogen WGS. NGD offers a high volume turn-key sequencing services to enable detection of transmission in hospitals, and is working with leading collaborators in the US, Europe and Israel to be among the first to bring WGS-based regulated diagnostics to patient care. NGD is based in the US, with subsidiaries based in Cambridge, UK and in Israel.

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