Pyrotech

DR. T- BREATH Analyzer
inhale exhale and repeat

Need of early disease detection

In the aftermath of the global upheaval caused by the COVID-19 pandemic, the imperative for a breakthrough in disease detection has never been more pressing.

Breath Analyser

Did you know that your breath can reveal a lot about your health? It's not just about bad breath or dental hygiene. Your breath can also contain clues to various diseases and conditions that affect your body. Breath biomarkers are molecules exhaled from the lungs or the mouth and can be detected that hold tremendous amounts of information on our physiological condition. CATS-Global Research Lab has developed an advanced photonic system for Inhale Exhale breath analysis, known as Dr. T, which addresses the need to detect multiple diseases with a single piece of equipment.

- Dr T is high-resolution optical system using concepts of elastic light scattering, statistical mechanics, machine learning and artificial intelligence. It can analyze and detect gases, voc's, that can correlate to specific diseases and also bacteria & viruses.

- Dr T's portable breath analyzer device, a marvel of simplicity, requires nothing more than inhaling and exhaling for 30 seconds inside the DR T cavity.

- The gases released during exhalation unveil a wealth of information about our physiological condition, enabling the diagnosis of various diseases in less than a minute.

- *GAS Analyser* Dr T's breath analysis detects elevated levels of gases at deficient concentrations levels like nitric oxide, indicating airway inflammation linked to conditions like pneumonia, tuberculosis etc. Acetone levels signify metabolic disorders, methane hints at gastrointestinal issues, while benzene and carbon monoxide provide insights into blood-related cancers and respiratory/metabolic disorders, respectively.

- *Breath Analyser*: Not just a disease detector, Dr T acts as an advanced spirometer integrated with gas analysis, offering real-time monitoring of breathing patterns, respiration rates, forced expiratory volume, and characteristics of inspiration and expiration. This wealth of information aids in diagnosing pulmonary diseases such as asthma, cystic fibrosis, lung

- *Pathogen Analyser*: The spectre of infectious respiratory droplets, highlighted by the COVID-19 pandemic, prompted Dr T to evolve into a pathogen identifier. Capable of detecting bacteria and viruses like Mycobacterium tuberculosis, Legionella pneumophila, Streptococcus pneumoniae, and SARS-CoV-2, Dr T empowers healthcare professionals with swift identification of infectious agents through cutting-edge molecular analysis and artificial intelligence.

- *Dr T SMART App*, the future of healthcare. Fueled by exhale breath analysis and CATSMART Big Data Analytics, it delivers a comprehensive health profile, personalized insights, predictive analytics, and the

Dr T's Inhale-Exhale Breath Analysis marks a paradigm shift in healthcare, making disease detection as simple as breathing. The technology eliminates the need for cumbersome sampling procedures, offering a non-invasive, cost-effective, and efficient method for detecting and monitoring a myriad of diseases. Integrated with the SMART App, Dr T empowers users to take control of their health, ushering in a healthier and happier future for all.

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