Xoetronics

BAA Number: 02-Q-4655
Mission Area: Field Confirmatory Biological Analysis
Requirement Number: 415/(Document Identifier) ATL-415-XTRON-001
Proposal Title: Photonic Molecular Probe Real-Time Monitoring Device

Xoetronics, LLC
December 22, 2001

Photonic Molecular Probe

Hand-held, size of a paperback novel.

Under $1000.

Operational Capability:

- ***Real time, continuous non-destructive/non-invasive*** monitoring and unambiguous quantitative identification of target molecules within a mixed specimen such as water, wastewater, food products, blood samples (non-invasive), tissue samples, etc.
- ***No specialized*** molecular biology or chemical ***knowledge required***.
- ***Very minimal training*** in use, operation and calibration required.
- ***Miniaturized technology*** capable of sensing blood levels of glucose, triglycerides, hornones, licit and illicit drugs, chemical/biological warfare agents such as anthrax, smallpox, sarin, mustard gas, tabun, ademsite, nerve gas, hydrogen cyanide, tear gases, arsines, psychotomimetic agents, and toxins, for known chemical formulas and stereochemisitry.

Proposed Technical Approach:

Device is subject matter of numerous issued and pending world wide patents. Proof-of-principle device constructed, tested and demonstrated.

New effort

Task 1: Construction of tabletop unit.
Initial signal processing software implementation using a Bayesian approach and determine various dichroic signatures .

Task 2: Evaluation of device on polychromatic data.
Refine signal processing software.

Task 3: Test and evaluation on polychromatic data in vitro and in vivo.

Rough Order of Magnitude Cost and Schedule:

Task 1:	6 months	$625,000
Task 2:	6 months	$375,000
Task 3:	6 months	$250,000

Total cost: $1,250,000

Deliverables:

- Prototype of hand-held, real-time, non-invasive, non-destructive diagnostic device.
- Report on demonstration of device in vitro and in vivo.

Corporate Information:

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