

Biomedical Devices Research & Development

Note: The information disclosed is current as of April 20, 2015. Further developments and changes will be reflected in newer iterations of this document. Please expect updates.

Bioenno Lifesciences is currently developing biomedical/biotech devices and systems including surface acoustic wave based devices, label-free multiparametric biosensor platform, portable cell culturing system for long-term cell viability, high-efficiency adsorbent sampling systems, and thermoelectric coolers for various applications. In addition through our cutting edge research, we are currently expanding into Graphene technology which in the near future may be incorporated into future generations of our devices and systems.

Below is a general overview of some of our most promising projects.

Major Patent-Pending Projects:

1) SAW-sensor based Breath Analysis and Diagnostic Device

An advanced surface acoustic wave (SAW) sensor based portable point-of-care analysis system both self-contained and self-sufficient in design is currently being developed for the advanced diagnosis of Lung Cancer with the expressed capability of detection of said disease in its early stages. This patent pending device is currently the only such apparatus in existence and is the first truly portable device of its kind. There is no other comparable device in its class that can offer our device's capabilities.

(For further information or to inquire about project development, please contact us.)

2) SH-SAW-sensor based Real Time In-Vivo Trauma Induced Coagulopathy Monitoring Device

In conjunction with the lung cancer detection system, Bioenno Lifesciences is currently in development of a shear horizontal-surface acoustic wave (SH-SAW) sensor based for the in-vivo monitoring of trauma induced coagulopathy (TIC) in patients in an intensive hemorrhagic state. Currently this is the most advanced and only biomarker based real-time disposable sensory-catheter array device for blood born conditions and/or diseases and disorders. This is something traditional systems and optical systems cannot match or offer.

(For further information or to inquire about project development, please contact us.)

General Projects:

1) Label Free and Real Time Biosensor with Multiparametric Detection

We are currently developing a lab-on-chip biosensor for real-time, rapid and sensitive detection of toxicants in drinking water. The high-content detection capability is realized by efficiently integrating two sensing methods in a single chip.

2) Portable Cell Culturing System of Long-term Cell Viability

To develop a truly field portable cell based sensor, we are developing a miniaturized cell culture chip that has the capability of long-term maintaining cell viability automatically with low cell media consumption.

3) Other Projects including:

(a) High-Efficiency Adsorbent Sampling System Based on Mesoporous Oxide

Presently our company is developing a *High-efficiency adsorbent sampling system based on mesoporous oxide*. We are developing a high surface-area, mesoporous oxide adsorbent sampling system comprising a standoff sensor that can be used for detecting both chemical vapors and biological aerosols. It will significantly reduce the logistics burden by reducing the number of sensors in the field. A rugged, inexpensive chemical sensor will also benefit the manufacturing community by providing inexpensive monitoring of chemical and biological processes.

(b) Nanomaterials-based biosensor

Our broad-based biosensor in development can be deployed in biological environments for real-time detection of agents of interest and for defense of potential hazards. Currently there is a pressing need to develop a new class of biosensors that is capable of monitoring exposure to biological or chemical warfare agents for either acute or chronic conditions in living systems. We seek to address this need through the employment of nanotechnology based biosensors.

(c) Tailored Spot Heating and Fluid Transportation

Bioenno Lifesciences is also developing a novel class of Tailored Spot Heating and Controllable Fluid Transportation Technology for a number of potential applications in biomedical devices and systems.