



Bioanalytical Systems, Inc

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U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health



National Institutes of Health Commercialization Assistance Program  
(NIH-CAP)

## Company Profile

Industry Sector: Life Science Instrumentation

**Company Overview:** BASi has been researching, developing and manufacturing analytical and bio-sampling instrumentation since 1974. The company got its start in electrochemistry and liquid chromatography product development and continues today but the more recent products focus on bio-sampling instruments that allow the automatic collection of blood, microdialysate and other bio-fluids while simultaneously monitoring physiologically important parameters such as blood pressure, heart rate, temperature and the like from awake, freely moving, stress-free laboratory animals; today the equipment is used with rodents and swine. The instrument concurrently can also monitor and record behaviorally important parameters (rotation, rearing ...). The company also is a provider of analytical (GLP, GMP) and general toxicology services.

**Target Market(s):** Drug discovery companies, generic drug companies, government agencies countering illegal drugs, any company needing simultaneous collection of PK/PD data.

## Key Value Drivers

**Technology\*:** The Culex-L is a device for dosing (IP, SC, PO, IV) and then collecting bio-fluids and recording physiological and behavioral data from freely moving pigs. The key technology is the platform that allows multiple fluidic and electronic lines from the animal to the sample collection devices from becoming twisted and entangled. This in turn allows the animal to move freely, unencumbered without anesthesia or restriction thus data collected is not affected by stress or potentially physiologically altering drugs.

**Competitive Advantage:** obtaining better data (remote dosing, multi-parametric data collection) from better animal models (pigs) and from fewer animals. This patented device provides a means to dose then simultaneously collect multiple parameter sample collection from awake, stress-free, freely moving laboratory animals.

**Plan & Strategy:** Beta animal housing-complete, biometrics module w/accessories -4<sup>th</sup> qtr. completion, long term (weeks) catheter study-3<sup>rd</sup> qtr., infusion pump-3<sup>rd</sup> qtr., large volume fluid storage device-complete

\*Technology funded by the NIH SBIR program and being commercialized under the NIH-CAP

## Management

### Leadership:

R. Tyler DeGraw, Ph.D., Senior Scientist, BASi  
James Hampsch, Manager, Product Engineering  
Craig S. Bruntlett, Ph.D., Sr. VP, Instrumentation Division

### Scientific Advisory Board:

Greg Knipp, Ph.D., Professor Industrial and Physical Pharmacy, Purdue University.  
Jeremy Marchant-Forte, Assistant Professor, Dept. Animal Science, Purdue Univ.  
D. Lee Mathews, DVM, Laboratory Animal Veterinarian, Purdue Univ.

## Product Pipeline

BASi currently markets the Culex automated invivo sampling instrument for rodents.

- The Culex-L (L for large animal) is now in development for swine.



- The technology is also applicable to other animal (large) models (e.g., monkey) and is being evaluated in collaboration with select clients.

Spin-off products include:

- a stand-alone lab animal blood sampling device,
- a multi-line, variable flow-rate microvolume pumping system,
- a multi-parameter biometrics module,
- a refrigerated, large volume bio-fluid collection-storage device.