JOYCE MASSEY TBI INNOVATION FUND
2015 TBI Funded Research Projects

Funding was awarded based on the potential to impact the way TBI is diagnosed and treated during the initial “golden hours” of care.

AUTOMATED BRAIN IMAGE ANALYSIS & DECISION SUPPORT SYSTEM

THE NEED

- COMPLEX IMAGING METHODS
- HUMAN ERROR
- HIDDEN PATIENT DATA
- DELAYED OR MISSED INJURY DETECTION

THE TECHNOLOGY

An automated decision support system that guides real-time TBI diagnosis using CT image processing and machine learning techniques.

- Noise & artifact removal
- Image segmentation
- Fully-automated computer platform
- Midline shift detection
- Quantitative assessment of TBI severity

COMPETITIVE ADVANTAGE

- FULLY-AUTOMATED: Identifies, localizes and quantifies imaging features to guide real-time clinical diagnosis.
- PRECISION IMAGE PROCESSING: Removes noise and artifacts from images, preserving medically relevant information.
- NON-INVASIVE: Prescreening procedure helps clinicians determine if intrusive monitoring/surgery is needed.
- SPEED: Fully-automated system provides faster and more accurate diagnosis.

COMMERCIALIZATION ROADMAP

- CLASS II DEVICE: 510(k) premarket notification
- LICENSE TECHNOLOGY
- POTENTIAL PARTNERS: NovoDynamics, IBM

PROJECT MILESTONES

- Data collection & annotation
- Develop robust noise & artifact removal methods
- Algorithmic development for image segmentation
- Segmentation validation
- Develop machine learning method
- Develop user interface