# Strategic-Plan-2013

## Social, Life, & Engineering Sciences Imaging Center

### 1. Mission

SLEIC is dedicated to fostering cutting edge research in the social, behavioral, biological, engineering, and materials sciences where imaging methodologies play a central role. The Center provides the Penn State research community with instrumentation, technological and domain expertise, educational opportunities, and financial support for conducting magnetic resonance imaging (MRI) and electrophysiology (EEG, ERP) experiments. The number of faculty researchers has increased more than five-fold since the Center's opening in 2009. More than 30 faculty researchers from four colleges conduct studies in neuroscience, biomechanics, nutrition, and health sciences across the lifespan.

### 2. Goals

1. Meeting the increased demand for time on the 3T scanner and advanced expertise in imaging methodology.

* SLEIC's growth and recent staff turnover has created sharp limits on 3T scanner availability, especially during high use periods in late fall and late spring. In addition, SLEIC researchers are finding they need to look elsewhere, often outside of Penn State, for expertise in experimental design or analysis techniques.

1. Fostering one or two clusters of strength based on common scientific interests.

* With support from SSRI and CYFC, SLEIC has added significant numbers of new faculty with primary or secondary interests in imaging. Combined with existing faculty areas of expertise in lifespan development, addiction, affect, brain trauma, and cognition, Penn State is poised to become a recognized scientific leader in one or two of these substantive areas.

1. Increasing the number of externally funded investigators and grants supporting imaging research.

* SLEIC has been a catalyst for external funding. Signficant new awards have come to researchers conducting imaging research at SLEIC, have arisen as a result of pilot data collected at SLEIC, or from investigators who have brought funding to Penn State because of SLEIC. We want to expand on and continue that success.

### 3. Metrics

1. Meeting the increased demand for time on the 3T scanner and advanced expertise in imaging methodology.

* We now measure increased demand by the number of proposed project hours, the proposed rates of data collection, and compare these to the hours available for data collection, and the total hours spent in data collection. We will continue to use these measures. Other benchmarks will include the number of staff FTE as a function of facility use, and faculty productivity measures (papers, presentations).

1. Fostering one or two clusters of substantive strength based on common scientific interests.
2. Increasing the number of externally funded investigators and grants supporting imaging research.

* With data from SSRI and PIs, SLEIC monitors grant submissions and awards on a semi-annual basis. We will continue to track grants by SLEIC investigators that use the facility directly or are made more likely to be fundable by the availability of SLEIC.

#### Reference groups for evaluation:

1. Benchmarking: what/who are your points of comparison (inside and outside PSU)?

* SLEIC compares itself to CNMRR at Hershey and sister imaging centers at other universities -- Ohio State, Michigan State, Indiana, Illinois, Northwestern, Penn, Princeton, Brown, CMU, and Duke.

1. Constituents: what/who are the groups that the work of your unit is aimed at informing/enabling/?

* SLEIC's constituents are largely internal -- faculty, postdocs, and graduate students.

### 4. Cross cutting issues:

1. Unit activities and goals relative to sustainability

* SLEIC uses electronic records as much as possible to avoid unnecessary use of paper. The Center powers down all computer and related equipment that does not need to draw electrical power for effective operations. SLEIC will explore additional ways to reduce the use of paper.

1. Unit activities and goals relative to diversity

* SLEIC continues to seek out and hire staff from underrepresented groups.

1. Unit activities and goals relative to ethics and civility

* SLEIC will incorporate ethics and professional conduct training into a new semi-weekly seminar series.

### 5. What new resources would enable key innovation(s) in the unit?

SLEIC's 3T scanner is now two generations behind and will fall out of its maintenance contract in five years. We have begun exploring with Siemens the scope and cost of an upgrade that will modernize and improve the scanner at a cost lower than a new magnet. That upgrade would bring higher receiver channel count capability and other hardware and software upgrades that will keep SLEIC competitive with other centers.