A critical mass of scientists – 38 in all with laboratory and clinical programs in Indianapolis, Notre Dame and Bloomington – are members of the IU Simon Cancer Center Breast Cancer Program at the IU School of Medicine. They concentrate on the discovery and testing of genetic drivers of breast cancer growth and spread. Your support makes this possible.

Notable discoveries with the promise to improve the treatment of breast cancer include:

- **Dr. Sunil Badve** has identified which DCIS (Stage 0 cancer) diagnoses will remain benign and which will develop into cancer. This information provides women with tremendous peace of mind and allows them to opt out of unnecessary and aggressive treatments. This research has been recently published and the test is available commercially. In addition, Medicare reimburses for the test. Future direction is to educate women and physicians about unnecessary radiation treatments and surgery following a diagnosis of DCIS that is confirmed as benign.

- In the last five years, **Dr. Hari Nakshatri** has discovered three targets for estrogen-driven breast cancers which no longer respond to anti-estrogen therapy. He is studying existing drugs and pursuing the development of new drugs that might hit the targets. The goal is to block these cancers from outsmarting anti-estrogen therapy so the treatment starts working again.

- Triple Negative Breast Cancer is a highly aggressive cancer for which there is no treatment plan to follow that physicians and patients can feel confident will cure the cancer. Now our research team, led by **Drs. Kathy Miller, Bryan Schneider and Milan Radovich**, has discerned unique characteristics about this disease that we believe can be targets for treatment. Two ground-breaking clinical trials – one national and the other regional – will be launched in 2014 by Indiana University faculty.

- **Dr. Brittany-Shea Herbert** is a national leader in research involving the role of the telomerase enzyme in breast cancer cells. This enzyme keeps cancer cells from dying, like cells are supposed to, and allows them to grow out of control. As is always the goal, what was learned in the laboratory was moved as quickly as possible to the patient care setting. Under the leadership of Dr. Miller, Indiana University was the first place in the world to test an enzyme inhibitor in breast cancer patients. Dr. Miller’s research involving the telomerase enzyme inhibitor is now proving to re-sensitize HER2-positive tumors to Herceptin when this drug’s effectiveness begins to wane.

- **Dr. David Gilley** has discovered how a subset of normal breast precursor cells – those that provide the building blocks for breast development – may be genetically vulnerable to developing into cancer. There is a growing body of research that suggests that these “luminal stem cells” are the cell of origin of many breast cancers. Dr. Gilley’s discovery of this new biomarker holds the potential for improved breast cancer prevention and early detection strategies.