

**IIGB Forum
May 29, 2008: 3:00pm
Science Library, Rm 240**

–AGENDA–

I. Overview of Illumina (Solexa) Genome Analyzer II DNA Sequencer, Planned Services and Timing (Presenter: Glenn Hicks)

Background to Acquisition of Solexa Genome Analyzer

Based on discussions stemming from the Dec 13, 2007 IIGB forum a petition was signed by 37 IIGB faculty and sent to our administration requesting advanced sequencing technology as well as two bioinformaticians to interpret the huge volume of data generated. On Jan 17, 2008 the IIGB Director met with administrators and obtained a very generous \$500,000 toward the purchase and support for two informaticians for 2 years. Committees were formed on Jan 18 to secure grant funding for a second next generation sequencing instrument and to develop a plan for continued funding of the informatics positions. The instrument was ordered and acknowledged by Illumina on April 2, 2008. Delivery should occur in July. A paired-end module has been ordered to increase output, but due to a backlog this will be delayed at least a month past the delivery of the rest of the instrument.

Solexa Technology

The technology was reviewed and consists of library preparation, amplification (cluster generation within flow cells), and sequencing. From previous and current discussions, individual laboratories will prepare and provide libraries for sequencing. Library kits are to be purchased by individual laboratories. Laboratories are encouraged to group their purchases of kits to save on cost. At this point, IIGB does not have any price advantage over individual PIs in purchasing reagents. Dr. David Fang (Specialist Genomics) was formally introduced. He will be responsible for operation of the Illumina GA instrument.

Components of the Service

Once supplied to the Genomics Core, libraries will be amplified and sequenced by IIGB Genomics Core staff. Informatics is a critical component of Solexa sequencing. The Pipeline software included with the instrument will provide base-calling and some alignment and quality control. This as well as more specialized analysis, which will be required in most instances, will be via the Bioinformatics Core at UCR.

Estimated timeline

Based on the projected delivery dates, installation, on-site staff training, and test runs, basic service could be running in August, barring unforeseen delays.

Education

As experience is gained with the instrument, IIGB will offer workshops to provide tips in library making as well as procedures for submitting samples. The IIGB website has been and will continue to be updated with additional Illumina information (see: <http://genomics.ucr.edu/facility/genomics/instrument-list.php>), including protocols from Illumina for library preparation. In addition, a Solexa user group may prove very valuable. This idea was favored by many in attendance at the meeting. As always IIGB members will be informed as services develop.

Pricing

Pricing information is still pending approval. As more experience with this technology and its true costs is gained, prices may have to be adjusted accordingly. For example, we recently learned that reagents for our newest generation instrument, the GAI, will be priced higher than those of the GAI. Regardless, it is IIGB's goal to provide the lowest prices possible for UCR users.

Many core facilities do not post their Solexa prices due to uncertainties in operating costs, but the available data indicates very competitive pricing for UCR researchers. One PI asked why IIGB would charge for informatics support, since two positions are university funded. It was explained that there is a considerable infrastructure associated with the Bioinformatics Core that must be recovered in order for the facility to continue to operate. However, as always IIGB charges fees that are very reasonable in order to continue to facilitate research in our campus.

II. Discussion and Suggestions