Scaling up renewable bioprocessing technologies through the advancement of food, fuel, and fiber based research and education.
The EIGHT SUITES in the pilot plant include a complete selection of utilities necessary for bioprocessing, including high pressure steam, chilled process water, and ample electrical connectivity.
The IBRL is designed to advance research, development, and education focused on renewable food, fuel, and fiber processing platforms and to stimulate bio-economic development in the state of Illinois through translational scale-up of developed technologies leading to commercialization.

A hybrid facility, the IBRL develops innovative, multidisciplinary teams of faculty and industry partners focused on the nexus of plant and microbial genetics and bioprocessing.

Innovation

The FIRST FLOOR of the IBRL holds the pilot plant, dedicated volatile extraction and grinding rooms, classroom, offices, and conference rooms. These spaces are supported by an accessible dock, general and cold storage, as well as a workshop support area.
The PILOT PLANT will house eight suites designed for projects that require intellectual property protection as well as open space.

Research

- The IBRL is a flexible, state-of-the-art, plug-and-play pilot scale facility.
- The IBRL fills the gap in the channel from innovative research to market application and commercial products.
- Feedstocks will be tested to assess their technical and economic feasibility for sustainable production of bioproducts.
- To move from basic research discoveries to commercial products, plants and plant co-products will be tested for their suitability for bioprocessing into value-added products.
- The IBRL will be the site for testing re-engineered microbes for production of next-generation fuels and chemicals.
The PARR REACTOR is a versatile pre-pilot scale piece of equipment designed specifically for cell wall deconstruction of various kinds of biomass (e.g., Miscanthus, switchgrass, corn stover) using different combinations of temperature, acid, base, or other physical or chemical treatments.

This 300L NEW BRUNSWICK FERMENTER is designed for culturing both aerobic and anaerobic organisms for small-scale production of bacterial, yeast, plant, fungal, and algal cells. A suite of smaller fermenters ranging from 1L through 80L is available to assist in scale-up.

The ADVANCE BIOSYSTEMS LLC PRETREATMENT REACTOR SYSTEM can be applied to a number of technologies, including those that use bagasse, corn cobs, corn stover, grasses, agricultural residue, straw, or wood chips to produce lignocellulose-derived sugars, liquid biofuels, and bio-based chemicals by employing acidic, alkaline, or organic pretreatment.

The HAMMER MILL GRINDER is used for grinding and size reduction of various types of biomass samples.
Collaboration

Scheduled to be completed in summer 2016, the 42,000-square-foot IBRL will contain a high-bay pilot plant, analytical laboratory, and offices, as well as classroom and conference space. The 2,500-square-foot analytical laboratory will support faculty and industry-based projects. At 10,000 square feet, the pilot plant will house, in addition to open space, eight private, enclosed processing suites designed for projects that require intellectual property protection. Each suite contains a complete selection of utilities necessary for bioprocessing (e.g., steam, process water, electrical connectivity). The IBRL will have equipment necessary for fuel, food, and value-added bioproduct processing, including biomass pretreatment, fermentation, and product recovery. Professional Science Master’s students are available to intern with partnering organizations. Yearly conferences and workshops will be offered on the latest bioprocessing research and specialized equipment. Personnel will provide expert guidance at all levels of the process. For use of the facility, please contact director Hans Blaschek.
The 2,500-square-foot ANALYTICAL LABORATORY provides foundational support for team-based research.
CONTACT INFORMATION:
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