

FUTURE BIOMANUFACTURING CENTER



ENGINEERING THE FUTURE OF BIOMANUFACTURING. TOGETHER.

Our interdisciplinary experts accelerate biomanufacturing from design to industrial scale production.

Partner with us to turn waste and renewable feedstocks into the next generation of reliable, high-value products.



We offer flexible R&D partnerships that accelerate advanced biomanufacturing at scale, including:

Strain & Microbial Community Optimization

Autonomous Experimentation

Digital Twins & AI / ML Modeling

Next Generation
Bio-based & Living Materials

ACCESS KEY TECHNOLOGIES SHAPING DOMESTIC BIOMANUFACTURING

Through strategic collaborations, we connect industry partners to the core technologies driving next-generation biomanufacturing, including automation, data-driven modeling, and integrated experimental platforms that accelerate reliable production processes.



RESEARCH FACILITIES

AUTONOMOUS BIOMANUFACTURING PLATFORMS

Advanced laboratory automation supports high-throughput strain and microbial community optimization. Integrated systems enable evolutionary engineering, stability testing, and rapid iteration across diverse bioprocesses.

STRAIN & BIOPROCESS ENGINEERING

Facilities for microbial strain design, genetic circuit engineering, and bioprocess development. Capabilities span pathway design, diagnostics, and scale-up optimization to improve reliability and performance.

DATA SCIENCE, AI & DIGITAL TWINS

Combined experimental and computational capabilities enable large-scale biological data generation, AI-driven analysis, and predictive modeling. Digital twins link cellular behavior to bioreactor performance, accelerating development and reducing risk.

BIO-BASED & LIVING MATERIALS FABRICATION

Facilities for the design, formulation, and testing of bio-based and living materials. Capabilities include embedding engineered cells or spores to enable sensing, biodegradation, recycling, and new material functionality.

BIOMANUFACTURING WORKFORCE DEVELOPMENT

- Industry-sponsored research projects prepare students for the biomanufacturing workforce
- Internships and targeted recruiting
- Visiting Industry Fellows
- A voice in curriculum development



Learn more about:
our faculty, students,
workforce development,
and research facilities:



CONNECT WITH US

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