UMass Dartmouth and the MAB: research and learning opportunities

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UMass Dartmouth and the Massachusetts Accelerator for Biomanufacturing (MAB)

- The MAB represents opportunities for UMass Dartmouth
  - Research opportunities
  - Learning opportunities
  - “Hands-on” biomanufacturing opportunities

- The MAB represents opportunities for Southeastern MA
  - Bringing more innovation and industry to the area
  - Providing training for biotechnology firms of the area
  - Providing the next generation of workforce to help drive the local economy

- The MAB represents opportunities for biotechnology
  - Providing space for startup ventures
  - Training the next (and current) generation of workforce
UMD undergraduate student opportunities at the MAB

• “Hands-on” experience and learning
  • Pre-treatment and media/buffer preparation in an industrial setting
  • Fermenter and bioreactor operations
  • Unit operations
  • Downstream processing
  • Unit operations
  • Training in a GMP-like environment
  • “Cradle to gate” biomanufacturing exposure

UMD Dartmouth

Educational tools
Biomanufacturing laboratory classes
Capstone (senior) projects
Opportunities for observation

Raw material ➔ Pre-treatment ➔ Chemical and biological reactions ➔ Downstream processing ➔ Product

UMass Dartmouth graduate student opportunities at the MAB

• Graduate classes and laboratories in biomanufacturing
• Thesis projects:
  • In a biomanufacturing setting
  • In a cGMP-like setting
  • Partnering with industry (?)
  • “Real world” understanding of bioprocessing with “real world” unit operations
  • Involving process design and control

Biotechnology Curriculum by Industry

From: learningin3d.ca
From: bioinformatics123.wordpress.com
From: h2h.jobs
From: cwx.prenhall.com
Biotechnology community learning at UMass Dartmouth and the MAB

• Development of 2-3 week intensive, hands-on courses in:
  • Process development
  • Fermentation
  • Downstream processing
  • QC
  • Any unit operations therein.

• For:
  • New hires at MA, RI (and more!) biotechnology firms
  • UMass students
  • Faculty
  • Many others

Internships/Co-op opportunities at the MAB

UMass Dartmouth students get:
• Hands-on opportunities to work in a biomanufacturing setting
• Real industry experience
• Inroads into bioproduction, contacts
• Interesting projects

Our partners in industry get:
• Enthusiastic workers
• Skilled and knowledgeable workers
• Potential future employees!
Thank you!!!

ISPE
Friends and colleagues at UMass Dartmouth
Friends and colleagues at Co-Bio Consulting
Suffolk
BNG 312 students, especially the Tour Guides