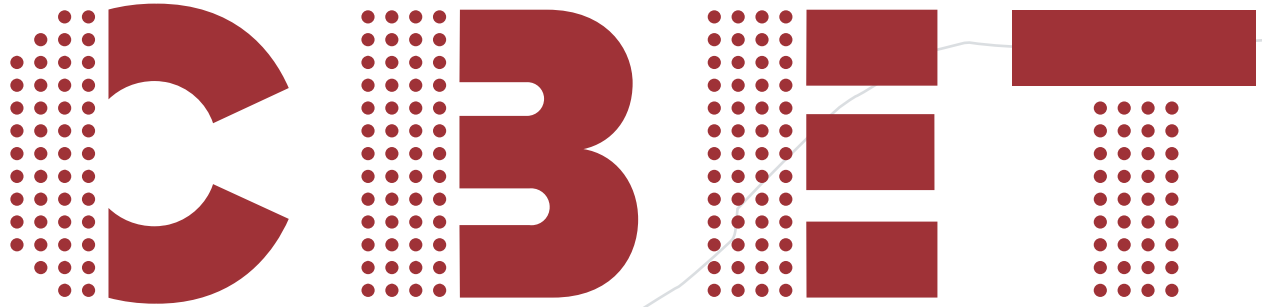


Albany College of Pharmacy and Health Sciences



ACCOMPLISHMENTS:
Advancing Biotechnology in the Empire State

2023 – 2024



Center for Medical Sciences





OUR VISION

Center for Biopharmaceutical Education and Training

At the Stack Family Center for Biopharmaceutical Education and Training (CBET), an initiative of the Albany College of Pharmacy and Health Sciences (ACPHS), we are driven by a powerful vision to transform biopharmaceutical education, research, and innovation.

A community of top scientists, industry executives, regional champions, and skilled ACPHS leaders is:

- **Training Future Biotechnology Leaders:** We equip the next generation with the skills and knowledge to excel in the evolving biotechnology landscape.
- **Providing Research Expertise and Industry-relevant Technologies:** Our center offers innovative resources to support early stage, groundbreaking research.
- **Creating an Incubator Where Innovation Thrives:** We deliver a culture of creativity and collaboration that accelerates discovery.
- **Convening Local, Regional, and State Resources:** We connect stakeholders invested in leading this rapidly changing field.

Over the past year, we laid a robust foundation that positions CBET to improve human health through innovative biotherapies, expanded career paths, and community outreach.

EXPLORE OUR ACCOMPLISHMENTS AND ENVISION POTENTIAL COLLABORATIONS FOR 2025.



TOGETHER WE INNOVATE

CBET Contract Research Services

The CBET Contract Research Services (CBET CRS) team has partnered with a growing number of biotechnology companies. Combining our research expertise with innovative technologies and skilled students, our collaborative approach accelerates research timelines and drives innovation.

PARTNERSHIPS

Make Research Happen

Neurodegenerative disorders, like Alzheimer's and Parkinson's disease, affect millions globally. With current treatments focused on symptom management, CBET CRS collaborated to provide material to researchers investigating the fundamental causes of Parkinson's disease.

Need:

- Investigate the role of Alpha Synuclein (AS) in this condition
- Develop a high-quality, reproducible source of purified AS

Result:

- Established a method for producing and purifying AS with ACPHS PharmD students
- Delivered large quantities to expand pre-clinical investigations

CBET Next Steps:

- Provide research experience to incoming ACPHS PharmD students
- Produce AS and other related proteins, enabling novel treatments

CARR Biosystems

A critical step in developing biopharmaceuticals is the separation and capture of live cells. Cell viability is required for studying cell behavior, developing therapies, and diagnosing diseases.

CBET is proud to collaborate with CARR Biosystems to validate its UFMini® Single-use Centrifuge, an innovative technology designed to deliver these critical requirements.



CBET performed crucial testing to evaluate the performance of our equipment and provided meaningful data across various applications.



– Paul Motulewicz, Principal Engineer



TOGETHER WE IGNITE POSSIBILITIES

CBET Programs and Alliances

Breakthroughs in biotechnology are constant, yet a shortage of skilled workers may prevent the launch of advanced therapeutics and technologies. CBET is preparing students, innovators, and professionals for in-demand careers, aiming to train not only entry-level employees, but its future leaders as well.

FOSTERING INDUSTRY AND ACADEMIC PARTNERSHIPS

Capital Region BioInnovation Forum

CBET leadership's vision sparked the idea for the Capital Region BioInnovation Forum. It showcases New York's thriving life sciences hub, bringing together industry experts, innovators, and academics reshaping the field.

- **Keynote Address**

Crystal Leach, Director, Industry-University Cooperative Research Centers National Science Foundation (NSF)

- **Forum Moderator**

Win Thurlow, Executive Director, LifeSciencesNY

- **Panels and Case Studies**

Early-stage innovation, development, and the importance of local and regional collaborations

TRANSLATING IDEAS TO REALITY

Capital Region BioInnovation Bootcamp

There is a common belief that innovators rely on “creative magic” for success. However, CBET and the Office of Translational Research, Innovation, and Technology Transfer (OTR) at Albany Medical College take a different approach. Together, they hosted an eight-week program on essential steps entrepreneurs must take to transform an idea from needs assessment and concept development to business planning and project launch.

- Engaging presentations from content experts
- Inspiring discussions with regional entrepreneurs
- Interactive group activities
- Exciting pitch competition



I've always imagined starting a business using the knowledge gained from my ACPHS PharmD degree. This program was ideal for exploring ideas and shaping my future ventures.



– Dylan Wang, PharmD



BUILDING CAREER AWARENESS

Biotech Connect

In the U.S., the number of people working in the biotech sector grew 79% in the last 20 years compared with 8% for all U.S. occupations¹. Coupled with New York's growth in this sector, credible programs are vital to fill this unmet need.

In partnership with Hudson Valley Community College (HVCC) and the Capital District Educational Opportunity Center (EOC), CBET launched Biotech Connect. This program focuses on expanding the Empire State's talent pipeline through a deliberate and targeted approach:

- Recruit underserved populations
- Build awareness of biotechnology
- Teach technical skills
- Offer interview preparation



This is a career gateway program. It introduces people unfamiliar with the rapidly expanding opportunities in biomanufacturing.



– Michelle Lewis, PhD, Executive Director, CBET

¹ Coldwell Banker Richard Ellis, Life Sciences

THE NIIMBL EXPERIENCE

CBET Delivers the Numbers

The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL) is a public-private partnership with a workforce development focus. One example, the eXperience program, is an immersive, hands-on initiative for undergraduate students.



CBET
1 of 3
U.S. institutions
chosen

CBET
ONLY 1
selected two
years running



60
engagements
with company
leaders



18
undergraduate
students

7
days of
immersive
experiences



10
site visits
to top-tier
manufacturers

11
tours of
start-up &
full-scale labs



10
site visits
to top-tier
manufacturers



INSPIRING YOUNG MINDS

The Making of Medicine

Seventh- and eighth-grade students from over 20 middle schools were recruited to participate in an annual summer camp created and led by CBET. This program highlights our unwavering commitment, alongside our partner, Battelle, to making STEM education accessible to as many students as possible.

- **Followed NY State Curriculum Standards:**
Fostering scientific curiosity and critical thinking
- **Hands-on Lab Experiences:**
Translating theory into practical skills
- **Collaborative Outdoor Activities:**
Teaching teamwork and problem-solving



For the purpose of education in connection with and the encouragement of creative and research work in the making of discoveries and inventions... to do the greatest good for humanity.

– Gordon Battelle, Founder

SHARING EXPERTISE

CBET's BioPharmaceutical Webinar Series

As part of its commitment to education, CBET hosted webinars where industry experts shared their insights with students, offering a unique opportunity to gain experience from professionals shaping the future of biotechnology.



A Career in Academia, CROs, Big Pharma, and Biotech

Sarita K. Acharya, MS, Principal Scientist, U.S. Pharmacopeia

Gene Therapy Manufacturing: Integration and Intensification

Tania Pereira Chilima, Chief Technology Officer, Univercells Technologies



The Evolution of Pharmaceutical Research Careers

Peter C. Michels, PhD, CEO and CSO, ImBiome

Murphy's Law in Bioprocess Development: Fixing It Before It Goes Wrong

H. Dahodwala, PhD, Institute for Bioscience and Biotechnology Research





EXPERIENCING THE REAL WORLD

CBET's Continuous Learning Series

Through alliances with leading biotechnology companies and scientists, CBET identified an opportunity to spark change in the Empire State: launching educational outreach programs.

Offered online or in-person, these programs empower college students and early-career professionals in the biotech sector.

- **Corporate Partners**
Corning Life Sciences, Eppendorf, Krackeler Scientific
- **Technology Introduction**
HYPERStack® and CellSTACK®
- **Educational Purpose**
Cell culture principles, scale-up, and practical applications

REGENERON

A Look Inside Biotech

Headquartered in New York, Regeneron opens its doors to ACPHS and HVCC students to see the exciting environment where life-changing medicines are made. Touring sophisticated research, development, and biomanufacturing facilities, our students see unimaginable career opportunities.

LEARNING BEYOND THE CLASSROOM

Student Research

Developing academic research skills is key to expanding career opportunities.

- Oversaw an Advanced Pharmacy Practice Experience (APPE) rotation
- Mentored seven APPE and four capstone program students
- Facilitated completion for all 11 participants

CONNECTING ACPHS STUDENTS

CBET Fellowship Program

In 2023, CBET launched the Biopharmaceutical Industry Fellowship Program to enhance workforce development. ACPHS PharmD and PhD students collaborate with company teams in drug discovery, product development, and commercialization, gaining practical experience across a product's lifecycle.



Caroline Jung, PharmD

Quality Assurance Fellow, Crinetics, ACPHS | CBET



Mackenzie Quirk, PharmD

Biomanufacturing Fellow, Curia Global, Office of Pharmaceutical Manufacturing Assessment (FDA), ACPHS | CBET

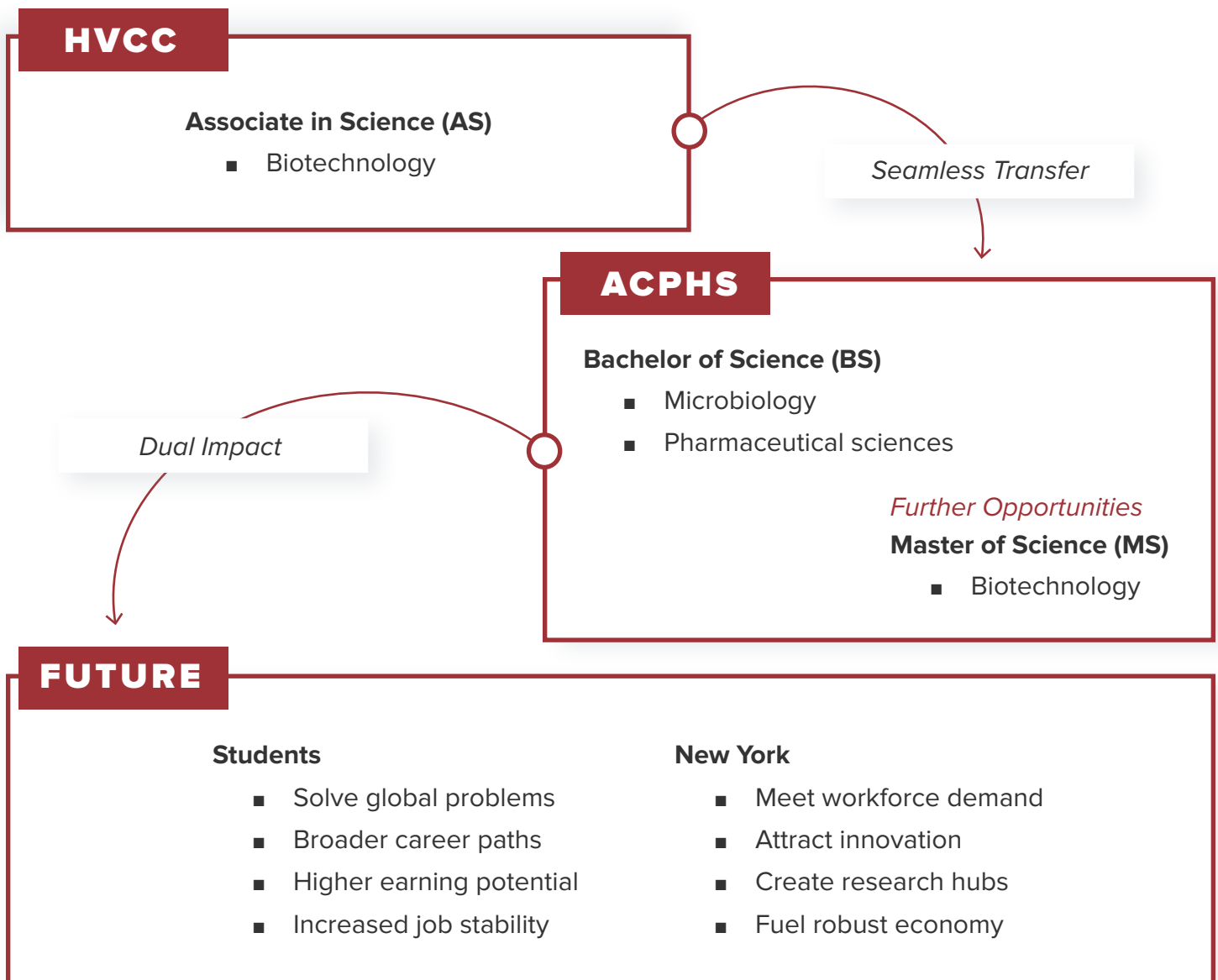
The success of the inaugural Biopharmaceutical Industry Fellowship Program paved the way for the funding of five more fellowship opportunities.

BRIDGING DEGREES, UNLOCKING CAREERS

ACPHS and HVCC Partnership

In the first biotechnology partnership, ACPHS joined forces with Hudson Valley Community College (HVCC, Troy, NY) to create an educational pathway, preparing students for the growth in this field.

Together, HVCC and ACPHS are not only streamlining a student's academic journey, but also contributing to workforce and economic resilience.



COLLABORATING NATIONWIDE

Companies and Groups

- **Albany Medical College, Office of Translational Research, Innovation, and Technology Transfer**, www.amc.edu
- **Battelle**, www.battelle.org
- **Capital District Education Opportunities Center**, www.hvcc.org
- **CARR Biosystems**, www.carrbiosystems.com [UFMini is a registered trademark of CARR Biosystems]
- **Corning Life Sciences**, www.corning.com [HYPERStack and CellSTACK are registered trademarks of Corning Incorporated]
- **Eppendorf**, www.eppendorf.com
- **Hudson Valley Community College**, www.hvcc.org
- **IMBiome**, www.imbiome.com
- **Institute for Bioscience and Biotechnology Research**, www.ibbr.umd.edu
- **Krackeler Scientific**, www.krackeler.com
- **LifeSciencesNY**, www.lifesciencesny.org
- **National Science Foundation**, www.NSF.gov
- **NIIMBL**, www.niimbl.org
- **Regeneron**, www.regeneron.com
- **Univercells Technologies**, www.univercellstech.com
- **US Pharmacopeia**, www.usp.org

Professional Organizations





TOGETHER WE IMPACT

CBET Funding and Accomplishments

A robust combination of academic, economic, and commercial leaders is essential to shaping the future of biotechnology. CBET, an initiative of ACPHS, plays a pivotal role in this collaborative effort, striving to make a lasting impact both in New York and beyond. CBET's commitment is demonstrated through the awards and grants it has received, the number of individuals actively participating in its programs, and the strategic partnerships it has forged.

ACKNOWLEDGING ACPHS AND CBET CONTRIBUTIONS

Grants and Awards

Battelle Grant

Provided support for CBET's Summer Camp program

Bender Scientific Fund

Granted CBET support for their alignment with the fund's mission to promote discovery and development in medicine, science, and technology in New York State's Capital District

Empire State Development's Division of Science, Technology, and Innovation (NYSTAR)

Awarded ACPHS funding to launch its new business incubator program, Accelerator for Medical and Pharmaceutical Sciences (AMPS)

The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL)

Awarded CBET the NIIMBL eXperience program for its second year; providing the opportunity to deliver an all expenses paid immersion experience for students from upstate New York

LifeSciencesNY

Bestowed on ACPHS the Distinguished Achievement in Research Award for their contributions to life sciences research and education

U.S. National Science Foundation (NSF)

Presented CBET the Enabling Partnerships to Increase Innovation Capacity (EPIIC) Award



The EPIIC program is intended to broaden participation in innovation ecosystems by supporting capacity-building efforts at institutions of higher education interested in growing external partnerships.



– U.S. National Science Foundation

ACCOMPLISHMENTS

CBET Impacted
488
Program Participants

CBET Established
39
Global & Regional Partnerships



CBET Awarded
\$5.94 MILLION
in Gifts and Grants



THANK YOU FOR EXPLORING OUR ACCOMPLISHMENTS

LET'S SHAPE THE
FUTURE TOGETHER

cbet.acphs.edu



ALBANY COLLEGE
OF PHARMACY
AND HEALTH SCIENCES

