

## OVERVIEW

The Advanced Lyophilization Technology Hub (LyoHUB - <http://www.lyohub.org>) is a university-industry center at Purdue University whose goal is to advance the science and technology of freeze-drying/lyophilization as applied in pharmaceutical, food, bio- and nano-technology manufacturing.

- LyoHUB industry members which include the entire value chain in lyophilization work together with university researchers to
- (i) identify and disseminate Best Practices for lyophilization including equipment performance, testing and validation and
  - (ii) conduct applied research to advance lyophilization processes and technologies;
  - (iii) develop educational and training programs in lyophilization.



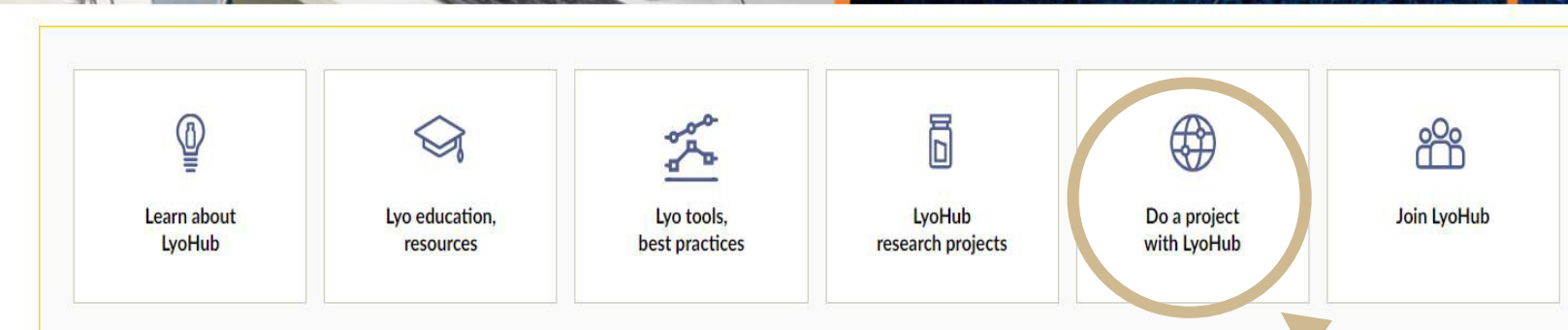
## LyoHUB Demonstration Facility

LyoHUB operates a demonstration facility in Birck Nanotechnology Center at Purdue University, where collaboration on breakthrough technologies can be advanced with a goal of accelerating adoption and decreasing time to market. The facility is equipped with state-of-the-art lyophilization equipment and is supported by LyoHUB's industry members. The facility also offers various hands-on training opportunities for academic and industry users.

LyoLaunchPad Application- Academic	
Project Title:	
Research Group/Faculty Contact:	
Affiliation/Institution:	
Faculty E-mail address:	Phone:
Research Group Website:	
Designated User:	
Title:	
Phone Number:	
E-mail Address:	
Project Information (briefly, describe the lyo project you would like to complete in LyoHUB demo facility).	
Equipment use (describe which lyo equipment you would like to use and typical conditions, e.g. freeze-drying recipe).	

## Administrative Forms

- Applications
- Tracking
- Reporting
- Internal Project Repository



## LyoLaunchPad

This program provides companies/universities external to Purdue, as well as faculty at Purdue University access to do a project in the LyoHUB demonstration facility (up to 1 week) at no cost (see Guidelines for details).

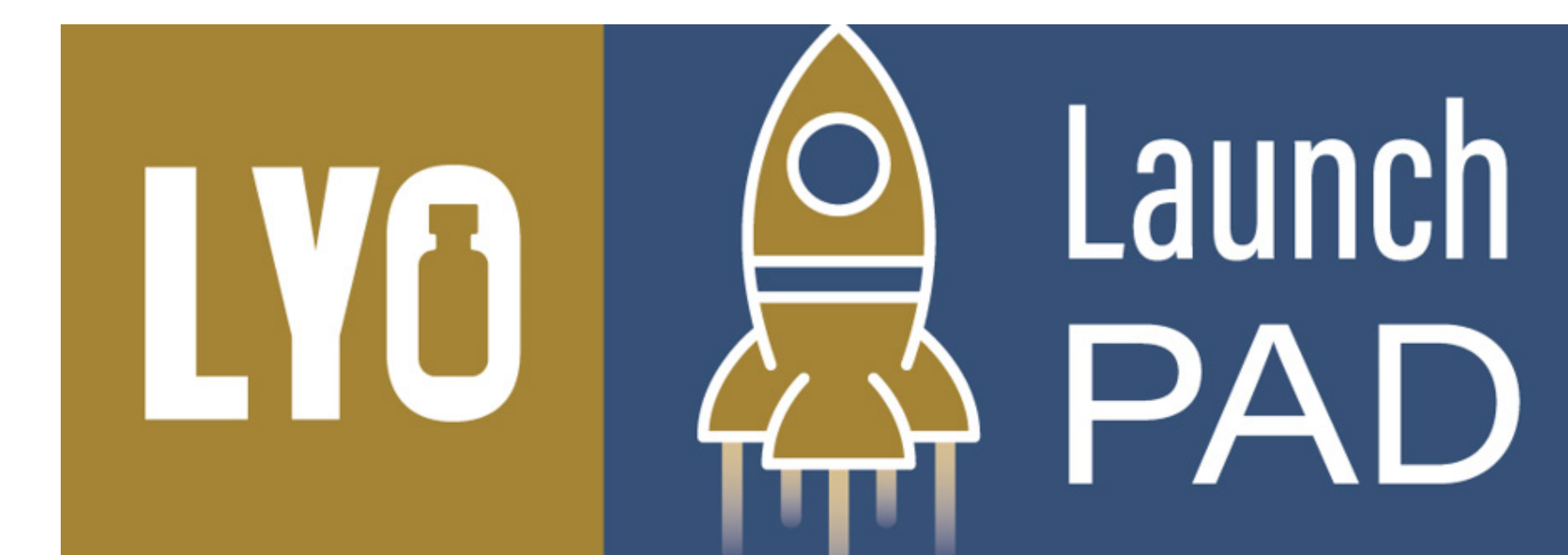


## Sample Projects

- Lyophilization Breakage Reduction Collaboration (Corning)
- Characterization of Nitrogen Pressure Control and Nitrogen Distribution within a Laboratory Scale Lyophilizer under typical Operating Conditions (AbbVie)
- Simulated Growth of Biofilms in Microgravity to Fuel a Microbial Fuel Cell (Quest Institute)
- Lyophilization Event Detection with Machine Learning (Falconry)
- Lyophilization of Cellulose Nanocrystals (U.S. Forest Service and Georgia Tech)

## New LyoHUB Website Design

The new LyoHUB website design offers a dedicated drop down with information about the LyoLaunchPad program. Forms and results are also available on the website.



## Program Guidelines

- Free use is up to one week of use of demonstration facility. Any usage beyond one week provided under research or testing agreement.
- User organization will provide a summary report of LyoLaunchPad project results to LyoHUB members within 30 days of project completion and present to LyoHUB membership within 90 days of project completion.
- User organization agrees to share cycle data with LyoHUB (if generated)
- User organization agrees to acknowledge the use of LyoHUB demo facility at Birck Nanotechnology Center in publications resulting from this LyoLaunchPad project.
- User organization agrees to comply with all laboratory safety regulations at Birck Nanotechnology Center and safety compliance within the LyoHUB demonstration facility. (If working directly in the lab)
- Submission of form does not guarantee acceptance of project. Once submitted, project will be evaluated by center directors.
- **Purdue** User agrees to acknowledge the use of LyoHUB demo facility at Birck Nanotechnology Center in SPS proposals where work will be completed through LyoLaunchPad project.



For more information about LyoLaunchPad, contact Jen Gray at [gray160@purdue.edu](mailto:gray160@purdue.edu) or visit [www.lyohub.org](http://www.lyohub.org)

The goal of this project is to increase awareness of the LyoLaunchPad program, provide access to forms & information, as well as to provide a way for the LyoHUB team to track information and progress on projects, ultimately increasing research impact in this critical area.