



# 2022 LEAD Capstone Poster Session

## **Enhancing Basic Research and Collaboration Through Improved Resource Management and Sharing**

Don Gammon, PhD

Assistant Professor

Department of Microbiology



# Abstract

- **Problem:** Inflation, supply chain issues, and reduced grant paylines are all challenges affecting the operation and productivity of basic research labs. Therefore, maintaining an organized research laboratory is critical for maximizing the impact of lab funding. When one considers that personnel salaries are the largest component of lab budgets, it is critical to maximize lab personnel's time spent on experimentation and minimize their time on lab management-related tasks (e.g. ordering, inventory tracking, etc.). Currently, there is no institution-wide use of a common software program to streamline lab management in UTSW basic research labs.
- **Action:** UTSW has made a significant investment in the integration of Agilent's iLab software into the management of its core facilities. I propose an extension of this institutional investment in iLab management software for basic research labs to enhance research productivity, resource management and sharing, and to foster scientific collaboration. Specifically, I propose that the institution conducts a survey to determine the level of interest of basic research PIs in implementing iLab management software in their labs (**Phase 1**). Assuming positive feedback, I propose UTSW acquires a site-wide license of iLab management software for basic research labs to use at little-to-no cost for 3 years to assess the value of the software (**Phase 2**). At the end of Phase 2, if the iLab management software is popular among PIs, I propose a further step of integrating iLab management software into PeopleSoft to streamline the ordering process (**Phase 3**).
- **Result:** Implementation of iLab management software in basic research labs aligns with the institution's goals of improving resource management and basic research. These outcomes would be due to improvements in the following specific areas: Request Management (streamlining of the ordering process), Inventory Management (tracking of lab reagent levels/locations), Financial Management (tracking of spending habits), and Resource/Information Sharing (ability to see what other UTSW labs have ordered in iLab may facilitate sharing of resources).



# Objectives

- Assess the level of interest of UTSW basic research PIs in the implementation of iLab Management Software in the running of their laboratories
- Acquire an institution-wide iLab Management Software license for a 3-year trial period for PIs to try out software at little-to-no cost to them
- Integrate iLab Management Software into PeopleSoft to become the primary ordering portal for laboratories



# Background Information

- Basic research costs continue to rise due to a number of factors (inflation, supply chain issues, etc.) without a corresponding rise in grant funding
- Maintaining an organized lab is critical for maximizing the impact of one's funding
- Lab personnel salaries are invariably the largest components of lab budgets
- Lab management software that would streamline lab management-related tasks such as ordering, resource organization, and inventory tracking helps to maximize time spent on data acquisition and experimentation and thus lab productivity
- While UTSW core labs have access to institution-funded Agilent "iLab Management Software" basic research labs do not
- Other peer institutions (e.g. Baylor) have acquired institution-wide iLab software licenses for basic research labs and have integrated iLab software into their ordering software to simplify the ordering process



# Project Plan

- **Phase 1 (3-6 months):** Conduct institution-wide survey of basic research faculty to gauge interest in, and need for, iLab Management Software
- **Phase 2 (3 years):** If survey feedback is positive, acquire institution-wide iLab Management Software for 3 years at no (or heavily subsidized, <\$500/year) cost to PIs
- **Phase 3 (timeline dependent upon software build):** Integration of iLab into PeopleSoft to become the new portal for ordering lab supplies and reagents



# Application of What You Learned at LEAD

## **Principles/Modules/Skills Applied from LEAD**

- Personal leadership
- Communication & influence
- Working as a team
- How to pitch an idea and influence others
- Negotiation



# Proposed Budget

- **Phase 1 (Survey): \$0**
  - Free survey software (e.g. Survey Monkey) will be used to conduct survey
- **Phase 2 (iLab Management Software Institutional License for 3 years): \$300K**
  - Institution-wide pricing at peer institutions is ~\$100K/year
  - Possible to negotiate further with Agilent to reduce cost
- **Phase 3 (Integration of iLab with PeopleSoft): TBD**
  - Would first need discussions between Agilent and UTSW Accounting/Purchasing Departments to price-out software build



# Innovation and Significance

- iLab Management Software would improve lab management in several key areas:
  - 1. Request Management:** Simplifies/streamlines ordering process for lab managers and members (avoids double ordering, misplaced orders, etc.)
  - 2. Inventory Management:** Allows tracking of reagent inventory levels and physical location of reagents in the lab (avoids running out of reagents needed for experiments and wasted time looking for reagents)
  - 3. Financial/Spend Management:** Spending habits can be tracked and filtered (can determine which lab members spend the most, can better determine realistic budgets of projects for grant proposals)
  - 4. Improved Knowledge/Reagent Sharing:** Can attach electronic notes to each item in lab inventory (can provide protocols/SOPs for using reagents) and iLab users can see what other UTSW labs have ordered and may be willing to share (allows “trying before buying”)
- Integration of iLab Software into PeopleSoft would provide a single, user-friendly portal to order lab supplies and reagents
- This proposal is a logical extension of UTSW’s investment in iLab for UTSW cores to now include basic research labs





# Acknowledgements

## **Advice/Guidance**

- Drs. Christina Ahn & Helen Yin

## **Discussion of iLab Software Implementation at UTSW**

- Dr. Andrew Lemoff (UTSW Proteomics Core)
- Christopher Paliotta and Julie Ayala (UTSW Provost Admin)
- Vaughn Hinrichs and Chris Lopes (Agilent/iLab)