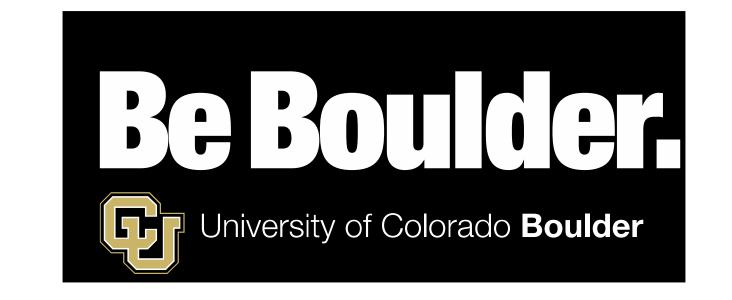


Establishing a Shared Instruments Program From Chaos to Order



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A Neglected Niche

Many academic institutions lack a small- to mid-scale instrument sharing program. Researchers therefore use valuable research time tracking down shared instruments. If researchers fail to find shared instruments they will purchase instruments, change their experimental design, or not perform an experiment. On CU Boulder campus:

No set path to find existing instruments on campus

> Partnered Word-ofmouth Social circles

Common issues cause labs to choose not to share



Establishing the BioCore

A small- to mid-scale instrument sharing program was established in May, 2018 to enhance sharing within three departments: Molecular, Cellular and Developmental Biology, Ecology and Evolutionary Biology, and Integrative Physiology. The purpose is to benefit research, efficient instrument utilization and improved lab space utilization.

Initial resources provided for this program:

Lab space Storage room

Single-staff salary

Steps developed and followed to establish the instrument sharing program

Inventory instruments in departments

Every lab visited and every instrument (3,833) entered into searchable database

Secure shared laboratory space Laboratory space needed for shared instruments

Analyze needs of departments

Determine resources that are in demand and excessive

Define services Develop services to benefit researchers and strengthen BioCore infrastructure

Instrument intake

Begin intake of unique and common instruments

Build relationships Build/maintain positive relations with departmental researchers and staff

In the First 18 Months

60 + \$850,000 3,833

Instruments tracked across three departments

Researchers utilizing instruments & services

Cost avoidance for instrument purchases

Shared labs managed by the BioCore

ft² of lab bench and floor space freed up in PI labs

>2,000

BioCore Services

Benefits to the University

Procure Instruments

Cost Sharing of Purchases

Existing Instruments

Contact

Needed

Instrument

New

Faculty

Students

Cost

Avoidanc ϵ

Time

Savings

Admin. Support

Streamlined Interactions

Bureaucratic Burden

Gain access to instruments across campus

• Instruments available for immediate use

Training for all shared instruments

Reduce redundant instrument purchases

• Instrument disposal, transfer, joint-purchases

• 3,833 instruments tracked between 3 departments

Needed instrument can be requested for sharing

• Instruments can be moved directly to faculty lab

• Decrease instrumentation limitations of Pl's lab

Cost-sharing efforts for purchasing instruments

Single email to connect researchers to instruments

handled by BioCore, freeing up researcher time

Time and energy to track down instruments

Campus **Planning**

Shared Lab Design

> Space Utilization

/lanagement

Instrument Training

Maintenance & Conflict Resolution

Property Accounting

Campus Controller's Office

CU

Distribution

Compliance

Office of **Contracts 8** Grants

> Grant Recipient

> > Shared

labs

Instruments assessed for:

Functionality

Repairability

Immediate need

Future demand

Instrument Intake Process

vetted for continued usefulness

tracked as they enter departments

three main ways:

Instruments are pulled in to the shared program in

1. Instruments no longer needed in PI labs that are

3. When faculty retire, move labs, or are organizing

laboratory purges, lab cleanouts are performed

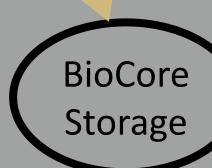
Incoming instruments

BioCore

Manager

destined to be disposed of or given away are

2. All new purchases of Capital Equipment are





Future Directions

With current success of the BioCore, the program is expected to expand across CU's Boulder campus in one of the following ways, dependent on University support, overlap of research, and campus location:

1. Integrate additional departments:

Psychology and Neuroscience Biochemistry Chemistry Geological Sciences **Environmental Sciences**

2. Repeat program design in department clusters:

Biochemistry Chemistry Chemical & Biological Engineering

Physics Geological Sciences Atmospheric & Oceanic Sciences

College of Engineering Departments



Single Point • Freed up FTE can be applied to other efforts Organizational structure simplified

Compliance

 Instrument purchasing, sharing and removal NSF, NIH, state, federal contract/grant policy assistance

Database

 Biennial audit performed by BioCore for departments • BioCore database of instruments is more accurate

Surplus/ Disposal

 All departing instruments vetted for recirculation • Instrument disposal tasks handled by BioCore

Cost **Avoidance**

• Efficient use of campus space and energy

Time Savings

 Admin can contact BioCore rather than 60+ faculty • Streamlined and uniform processes

Instrument

• Reduction of service contracts/3rd party maintenance