

Training Program: A 6 Year Story

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The University of Texas Medical Branch

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- Trainees
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Rules & Expectations

- **Regulations/guidelines set forth by agencies such as CDC/Select Agents, USDA/APHIS, NIH/OBA, WHO, government, local regulations, etc...**
- **General public expect to be safe**
- **Laboratory personnel and support staff expect to be safe**
- **Consequences of incidents can be devastating**

New Era of Training

- **Increased public interest and regulatory requirements for standardization of training**
 - ★ Core competency
 - ★ Two phase training
 - ★ Focus training
 - ★ Documentation



Principles of Education

- **Human nature is to hide our mistakes**
- **Philosophy to encourage staff to report incidents and accidents...**
- **Develops safety awareness**
- **Develops an institutional safety culture**
- **Education not perceived as punishment**

Success of the Training Program

- **Have the right people involved from the beginning**
 - **Biosafety group**
 - **Upper management**
 - **Principal investigators**
 - **Laboratory directors**
 - **Consultants**
 - **Occupational Health**
 - **Administration**
- **Support from the laboratory Directors and Principal Investigators**
- **Support from the Institution**
- **Support from other institutions (outsource your needs/collaboration)**

Training Process

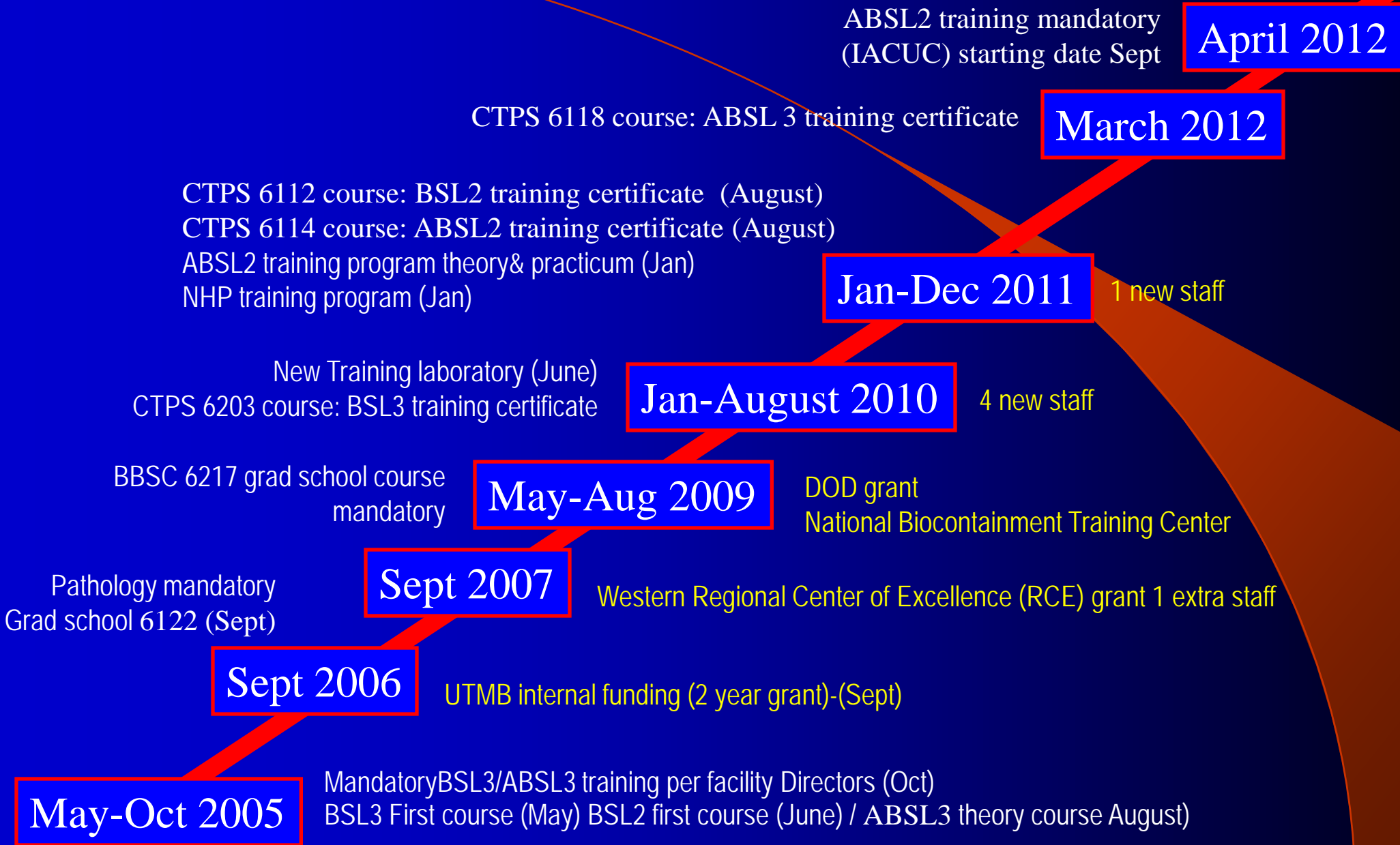
- **Basic evaluation of theory and skills of individual**
- **Training is specific to each researcher's needs and past experience**
- **One-on-one hands-on training program for BSL3 & 4**

Labor intensive, but focuses on individual needs.

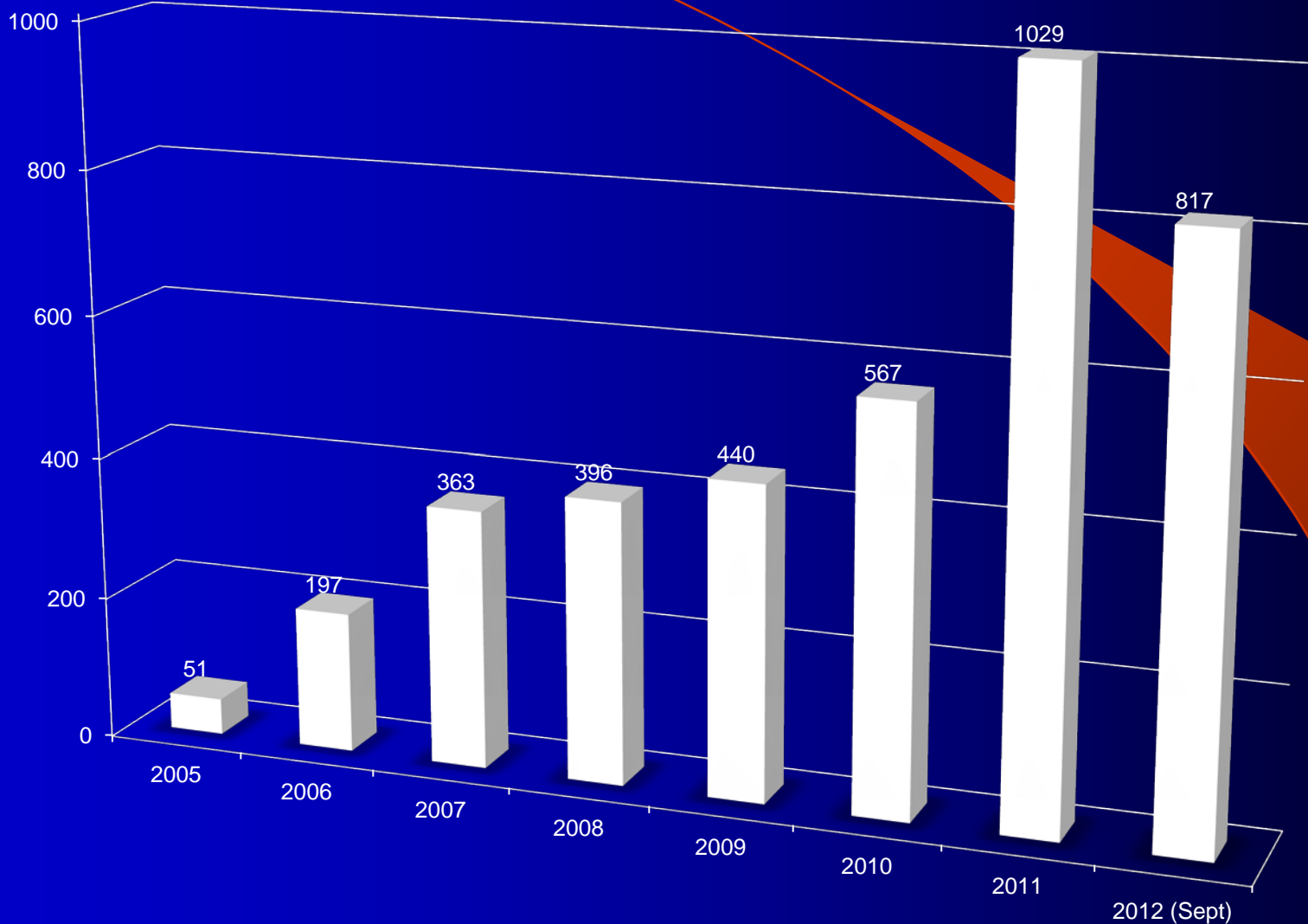
Courses Offered

- **BSL1**
- **BSL2**
 - Select Agent labs, mandatory
- **BSL3- BSL4**
 - Mandatory all users
- **ABSL2**
 - Select Agent labs, mandatory
 - Mandatory all users
- **ABSL3**
 - Mandatory all users
- **Animal handling skills**
 - All species all biosafety level
- **NHP course**
 - Mandatory at UTMB
 - Training per Biosafety level/ per skills
 - Annual refresher
- **Graduate students**
 - 2 credit hrs
- **Specialized courses**
- **Testing of safety equipment**

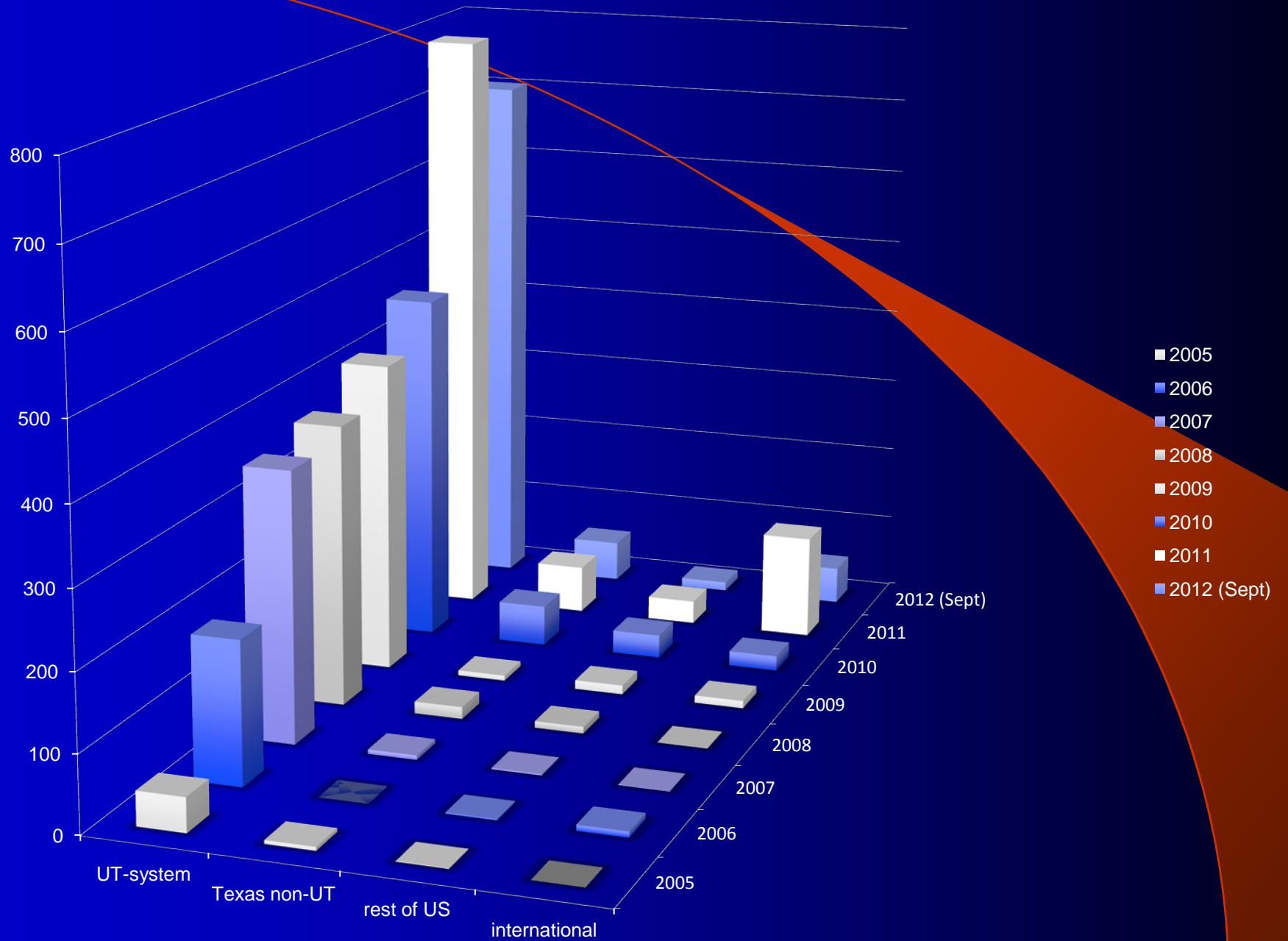
Training Program at UTMB...



Total number of students May 2005-Sept 2012

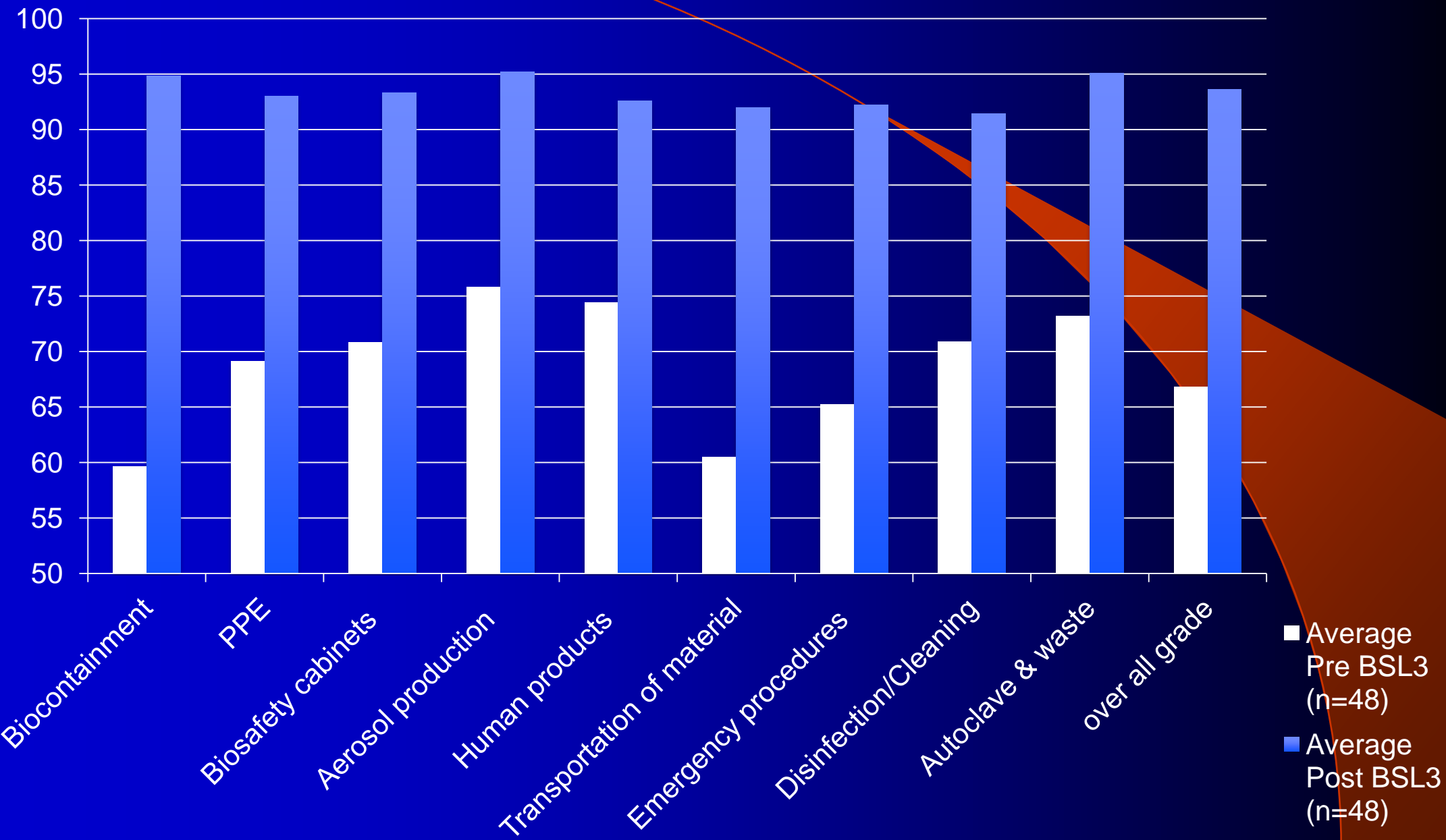


Geographic distribution of trainees

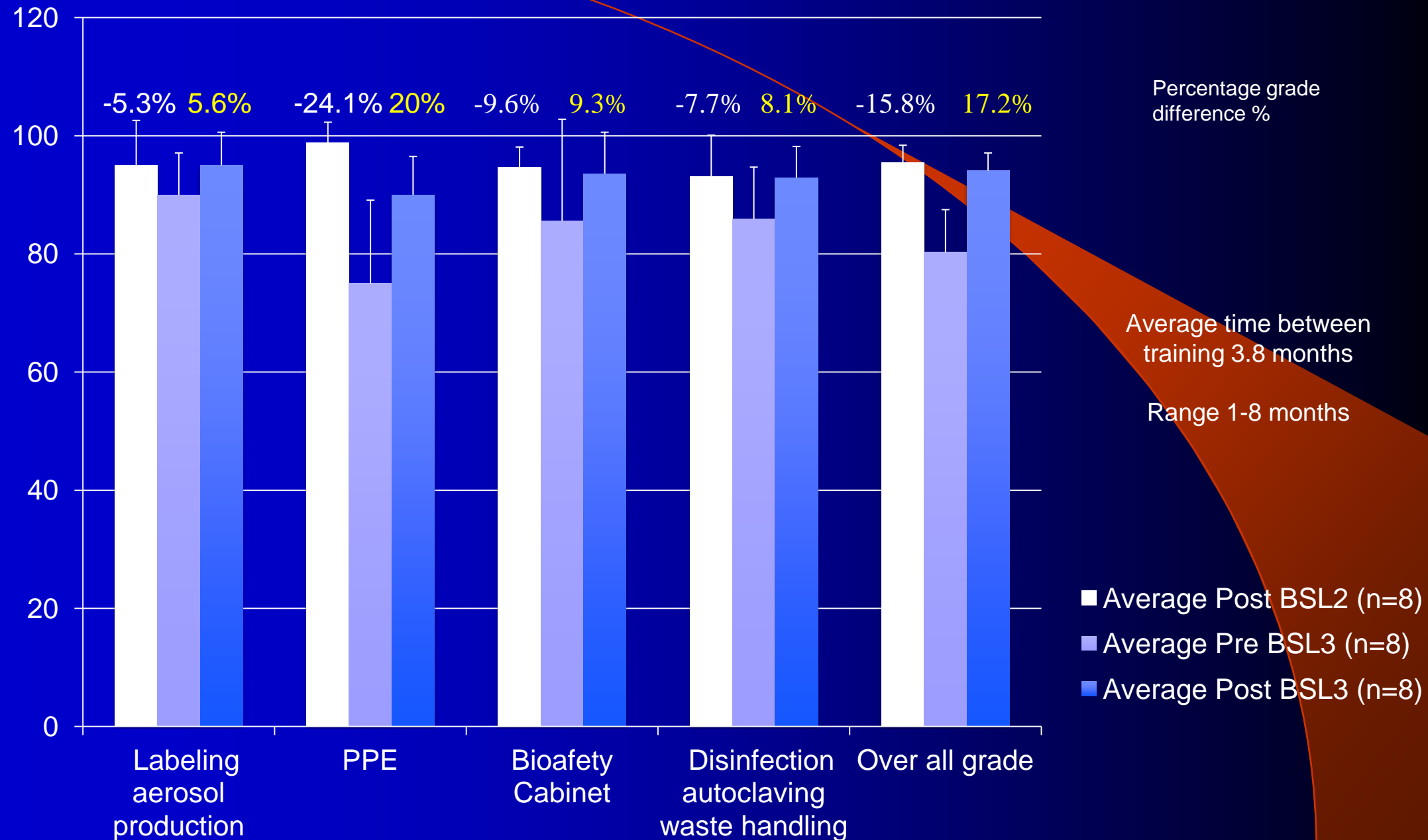


Course outline

Comparison between BSL3 pre and post written test average % grade/section



Comparison between BSL3 pre-post written test following BSL2 training - average % grade/section



Average number of training sessions

	Number of hands on session
BSL3 training	2.0 ± 0.8
BSL 2 training	2.9 ± 0.9
BSL3 training following BSL2	1.9 ± 0.9
BSL3 training without BSL2 first	2.1 ± 0.9

Lessons Learned

- **Documentation**
- **Registration process**
- **Human nature**
- **Research pressures**
- **Growing pains**
- **Challenges of growth**

Documentation

- **Evolution with time**
 - **Storage of documentation**
 - **What is critical information**
 - **Legal retention time and format**
- **Certificates / Letters**
 - **Additional information on the animal certificates to capture species and techniques**
 - **Capturing time spent with students per course**
 - **Sent by mail or electronically**
- **Keeping communication with students**

Registration

- **Becomes more complex with time**
 - **None needed**
 - **Basic information and a supervisor signature**
 - **No signature but additional information**
- **Structured process with predefined steps to be completed in a specific order**

BSL3

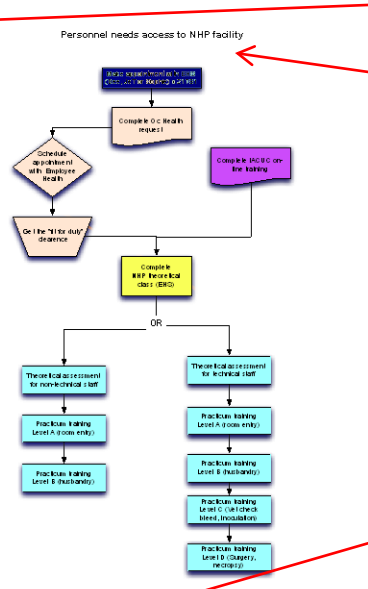
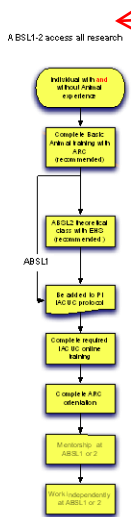
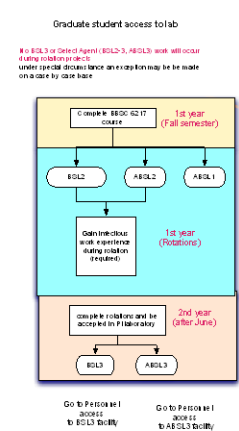
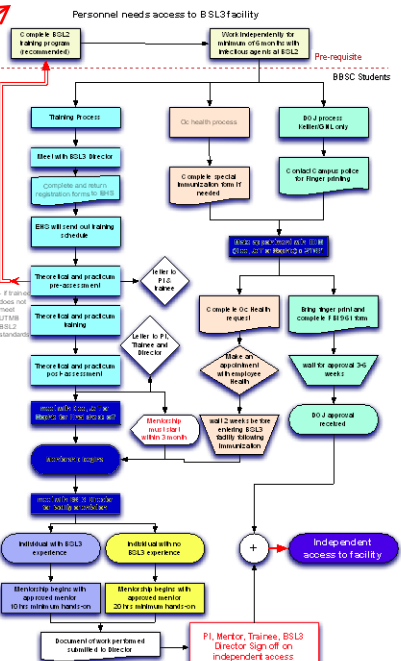
ABSL2

NHP

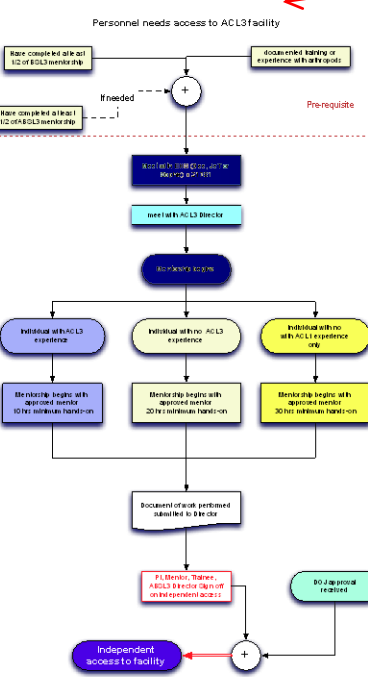
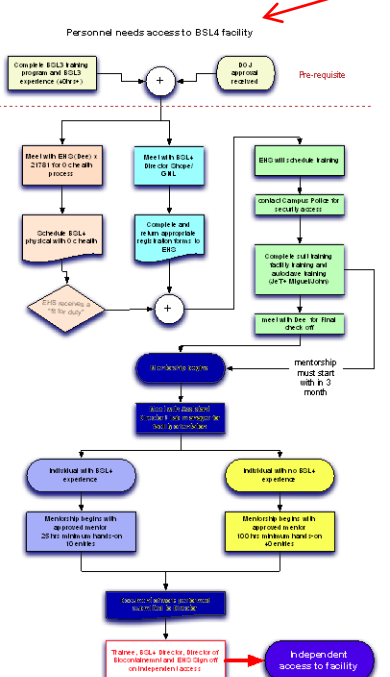
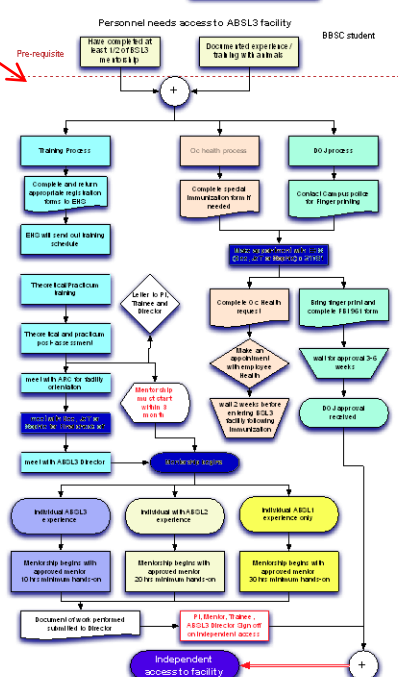
BSL4

ACL3

ABSL3



Students



Access process to containment laboratories



Human nature

- **Everyone is special!**
- **Everyone's project is critical**
- **Each student needs training done by yesterday**
- **Lack of organization/communication**

Research pressures

- **Grant deadlines for data collection**
- **Visiting scientist, students onsite for short period of time**
- **Graduate students**
- **Staff turnaround**

Growing pain

- **The more individuals are involved the more structured a process needs to be**
 - **Cannot “wing it” or “go with the flow”**
- **The more oversight is needed to ensure processes are followed**
- **Issues become harder to handle and blow out of proportion faster**
- **Customers become more demanding and less understanding**

Challenges of growth

- **Balancing the needs of the researcher**
 - Maintaining flexibility of training both in schedules and topics
 - With the program capabilities
- **Maintaining a consistent training message among trainers**
- **Increase cost of business**
- **Adapt program and courses without losing the core philosophy**

Quality versus Quantity



Resources needed

- **Dedicated facility**
- **Dedicated trainers**
- **Dedicated support staff**

Dedicated training facility



**Mock BSL3 Laboratory Training
Facility (May 05)**





**Mock BSL3 Laboratory Training
Facility (June 2010)**

Dedicated Staff and Training Facility

LBTP staff were all originally laboratorians, trained in biocontainment labs along side research staff in our different labs

- 4 full time trainers**
- 3 part time trainers**
- 1 full time Sr. administrative support staff**
- 1 part time support staff**

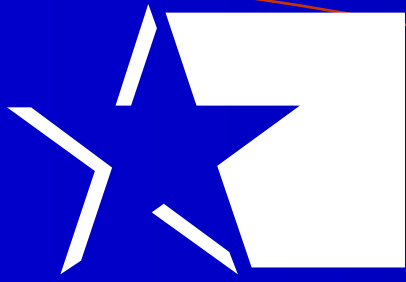
Conclusion

- **By training staff in a progressive manner you can ensure**
 - **Better knowledge of material**
 - **Increased comprehension from BSL2 trainees moving to 3 than direct BSL3 trainees**
 - **Less time spent in practical training**
 - **Average 1 training session (equivalent to 2-3hrs/trainee)**
- **Ever lasting changes in the program**
- **Need to work closely with researchers and upper management for the program to succeed**

National Biocontainment Training Center

- **DOD Grant Funded**
- **Provides training to all National Entities at no cost. (except travel expenses)**
- **On-site and off-site training**
- **Offers**
 - **2 Research Fellowships**
 - **2 Engineering Fellowship**





UTMB
Laboratory Biosafety
Training Program

The University of Texas Medical Branch

Q & A