RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

# Implementation of Biosafety Guidelines for Undergraduate Teaching Laboratories

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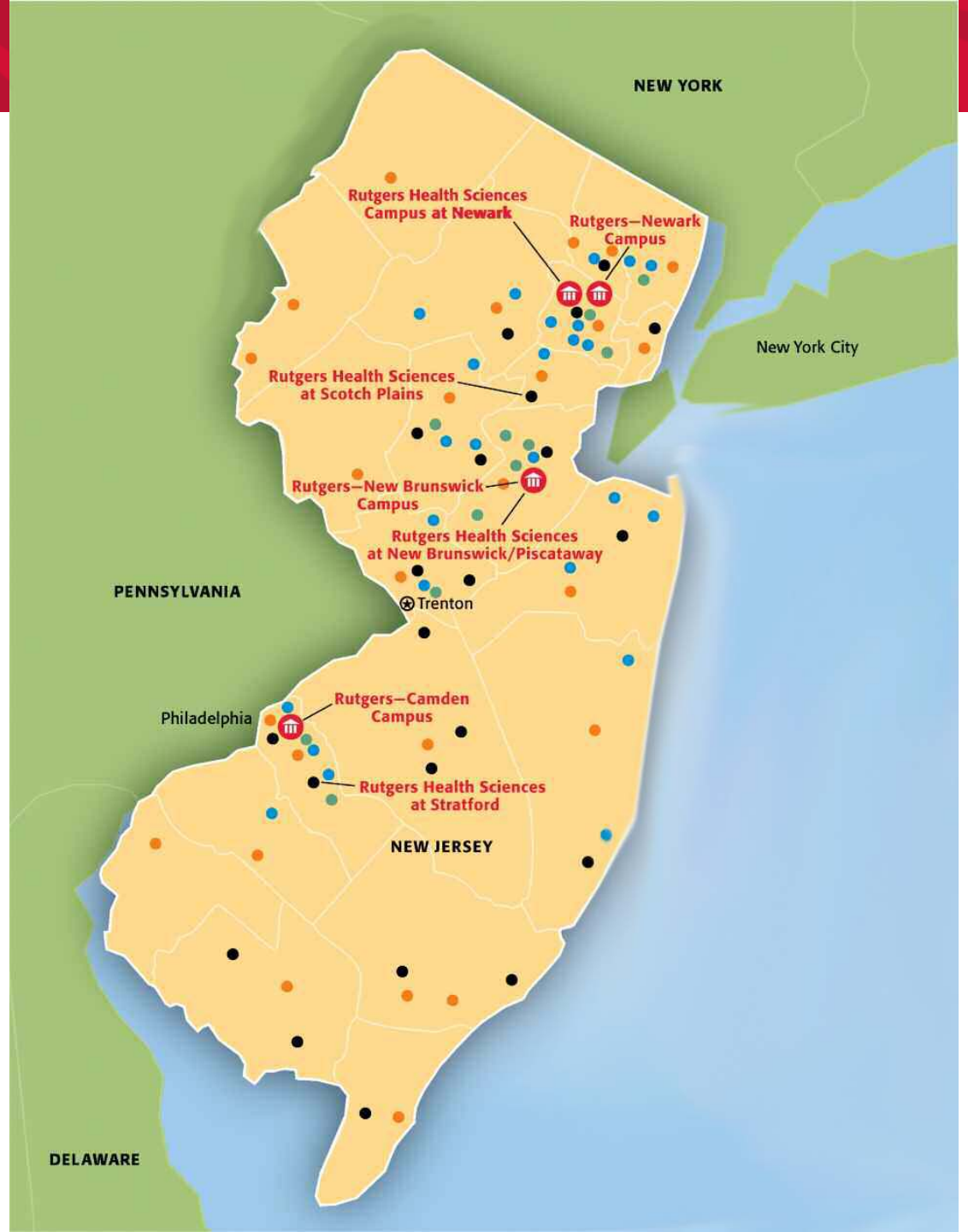



# Biosafety at Rutgers University

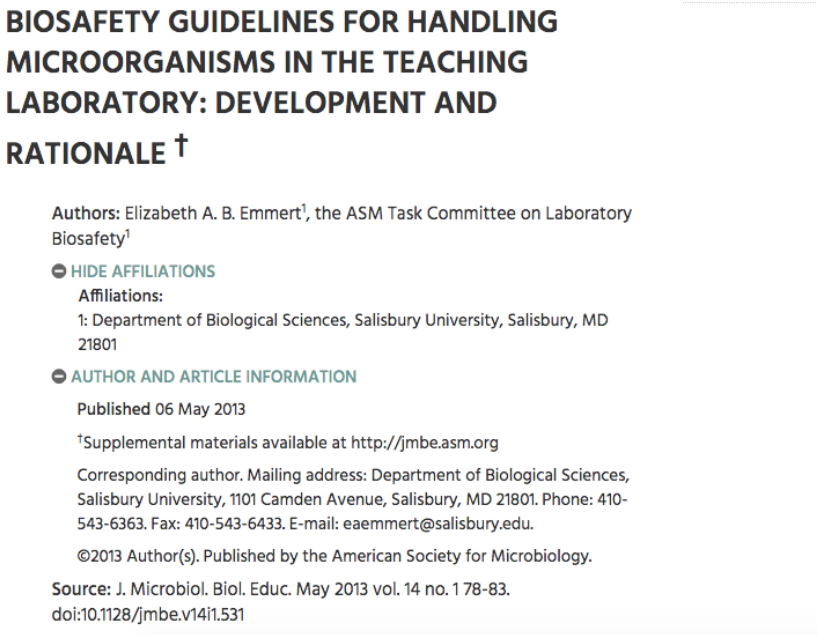
- More than 48,000 undergraduates and more than 19,000 graduate students
- 31 schools and colleges
- More than 100 undergraduate majors
- More than 200 graduate programs and degrees
- More than 300 research centers and institutes

# Teaching Laboratories at Rutgers

- Complex environment
  - Three main geographical areas, multiple campuses in each area
- Moving towards hypothesis driven exercises
- Combination of environmental and health focused
- Undergraduate, graduate and certificate programs

# ASM Biosafety Guidelines for Teaching Labs

- Standardized biosafety guidelines in response to outbreak of *Salmonella typhimurium* for educators to implement in their laboratories



**BIOSAFETY GUIDELINES FOR HANDLING MICROORGANISMS IN THE TEACHING LABORATORY: DEVELOPMENT AND RATIONALE †**

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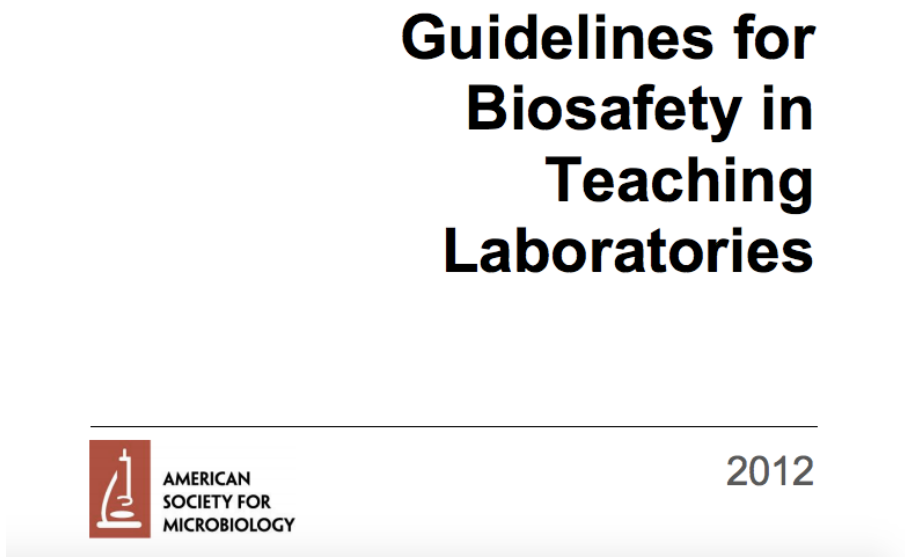


**Guidelines for Biosafety in Teaching Laboratories**

AMERICAN SOCIETY FOR MICROBIOLOGY

2012

The University has a Biosafety manual and biosafety policies, why start an initiative with teaching laboratories?

# Teaching Lab 1

- Health related professions microbiology lab
- Designed for microbiology diagnostic techs
- Laundry list of pathogens
- no BSC, all benchtop work (mostly solid culture)
- Obtain clinical samples from microbiology labs without MIC data!

# Teaching Labs 2 and 3

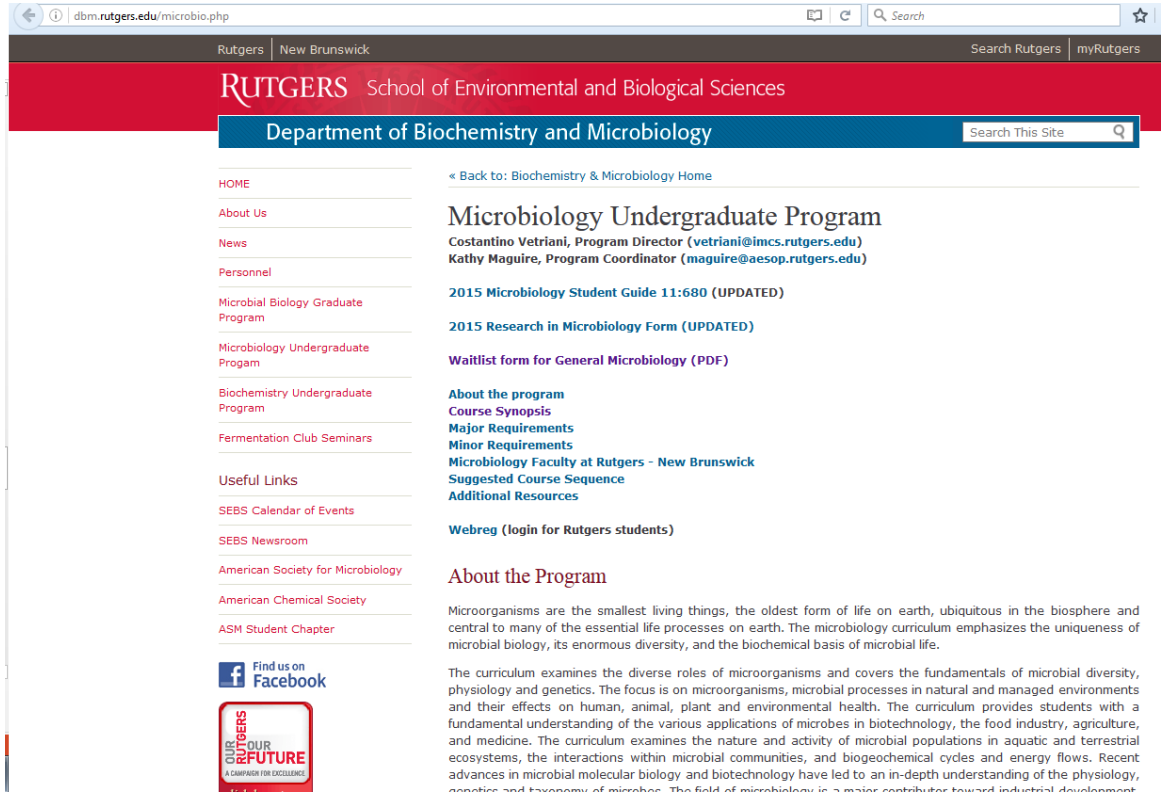
- Introductory microbiology lab for undergraduates
  - Proposed BSL2 work, unknown identification
  - No BSC
  - Designed for all microbiology majors, generalized information and basic microbiology
  - Mentions microbiology program on another campus where throat and nasal swabbing is performed

# IBC and Instructor Initiative

- Draft guidelines based off of ASM guidelines
  - Include list of Risk Group 1/2 acceptable bacterial strains
  - Guidelines for using RG2 organisms, substitute ESKAPE pathogens
- Membership
  - IBC Members
    - Chair, Bacteriologists, Biosafety Officers
  - Instructors from large microbiology courses
    - Undergraduate
    - Health related profession
    - Medical school

# Identification of Teaching Programs

- Website searches
- Word of Mouth
- Training
- IBC member discussion
- Social Media
- Laboratory Inspections

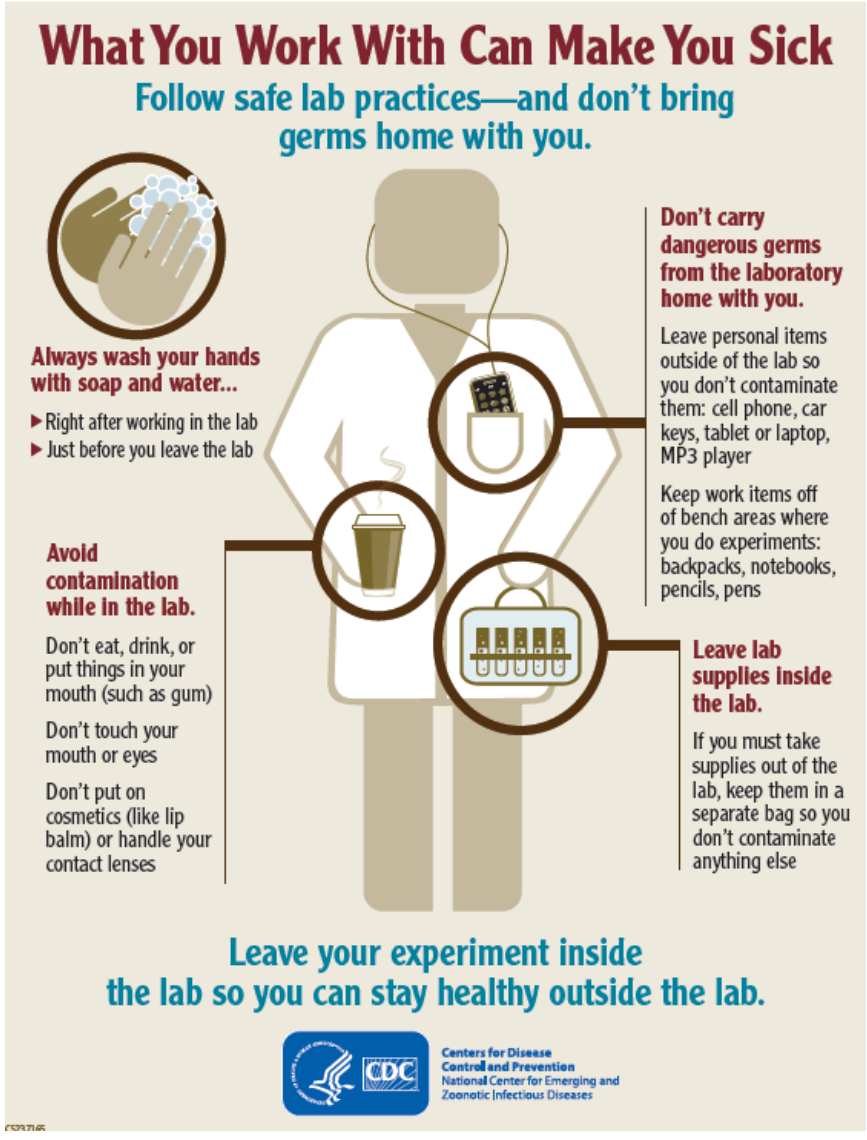


# What did we gain?

- Identification of microbiology/ recombinant nucleic acid programs
- Interaction between instructors
- Building safety culture and community
- All biological teaching labs will submit lab manuals for review
- IBC review and approval
  - Work covered under NIH Guidelines
  - Risk Group 2 agents
  - Culturing unknowns from environment
- TA training

# Instructor Creativity and Implementation

- iPads, and tablets in lab
- Changes to PPE requirements
- Sharing cultures/ strains
- Additional safety training at start of semester for all enrolled students



# Not done yet…

- Numerous schools and units
- New offerings/ syllabi changes
- New Instructors
- Outreach is never done

It takes a community…

- Tracy Pfromm
- Ron Hart, Richard Ebright, and Don Schaffner
- Instructors and TAs

# Thank you!!!!