

The background of the slide is a solid red color with a large, faint, circular watermark of the Rutgers University seal. The seal features a sunburst in the center, surrounded by the text 'RUTGERS UNIVERSITY' and 'THE STATE UNIVERSITY OF NEW JERSEY'.

# RUTGERS

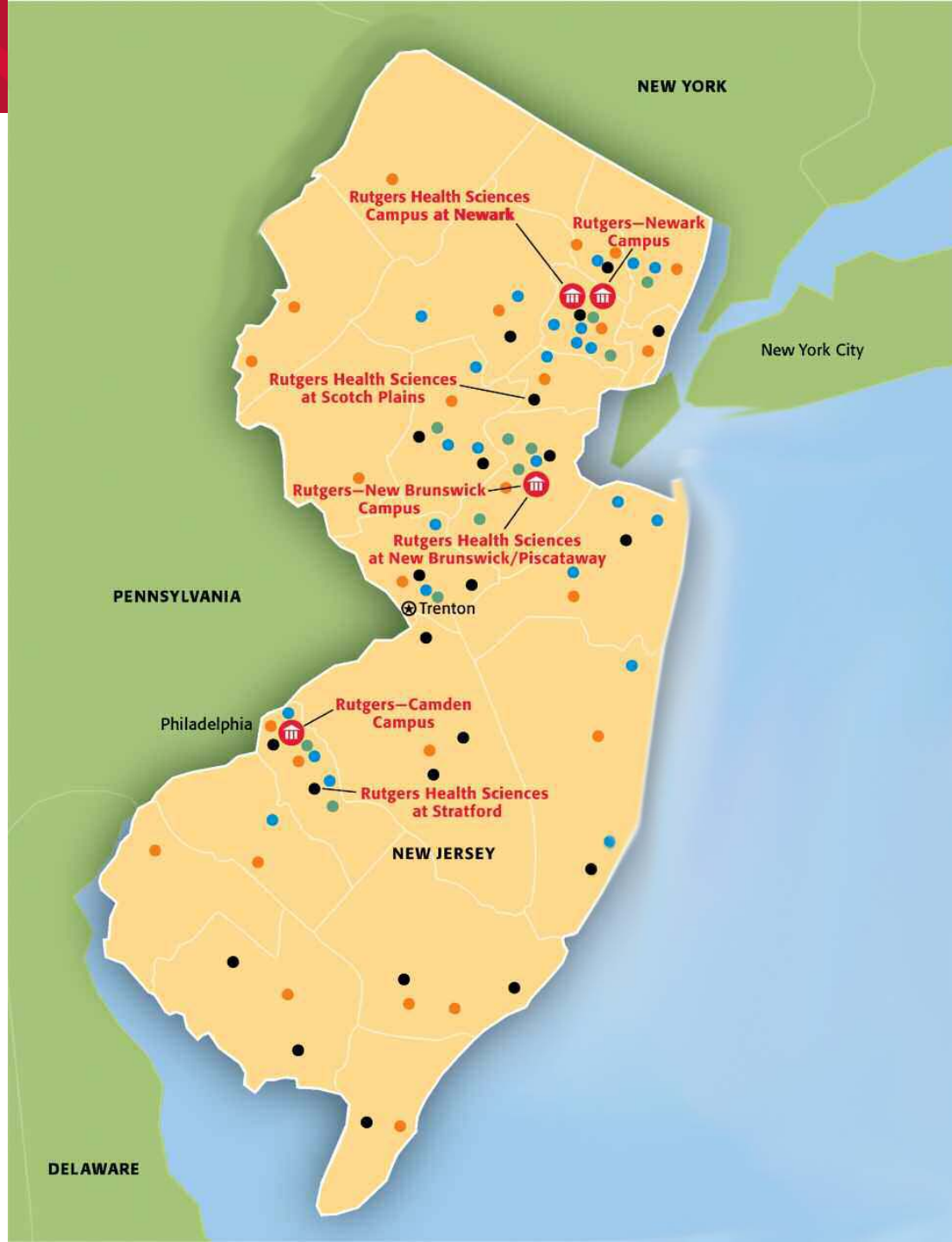
THE STATE UNIVERSITY  
OF NEW JERSEY

## Implementation of Biosafety Guidelines for Undergraduate Teaching Laboratories

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ABSA Conference

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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

The screenshot shows a web browser window displaying the website for the Department of Biochemistry and Microbiology at Rutgers University. The browser's address bar shows the URL `dbm.rutgers.edu/microbio.php`. The website header includes the Rutgers logo and the text "School of Environmental and Biological Sciences" and "Department of Biochemistry and Microbiology". A search bar is visible in the top right corner. The main content area is titled "Microbiology Undergraduate Program" and lists the program director, Costantino Vetriani, and the program coordinator, Kathy Maguire. Below this, there are links to the "2015 Microbiology Student Guide 11:680 (UPDATED)" and the "2015 Research in Microbiology Form (UPDATED)". A "Waitlist form for General Microbiology (PDF)" is also available. The page includes a sidebar with navigation links such as "HOME", "About Us", "News", "Personnel", and "Useful Links". At the bottom, there are social media links for Facebook and a logo for "OUR FUTURE" with the tagline "A CAMPUS FOR EXCELLENCE".

# 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

**What You Work With Can Make You Sick**  
Follow safe lab practices—and don't bring germs home with you.

**Always wash your hands with soap and water...**

- ▶ Right after working in the lab
- ▶ Just before you leave the lab

**Avoid contamination while in the lab.**

- Don't eat, drink, or put things in your mouth (such as gum)
- Don't touch your mouth or eyes
- Don't put on cosmetics (like lip balm) or handle your contact lenses

**Don't carry dangerous germs from the laboratory home with you.**

Leave personal items outside of the lab so you don't contaminate them: cell phone, car keys, tablet or laptop, MP3 player

Keep work items off of bench areas where you do experiments: backpacks, notebooks, pencils, pens

**Leave lab supplies inside the lab.**

If you must take supplies out of the lab, keep them in a separate bag so you don't contaminate anything else

**Leave your experiment inside the lab so you can stay healthy outside the lab.**

 Centers for Disease Control and Prevention  
National Center for Emerging and Zoonotic Infectious Diseases

# 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!!!!**