

MARINE BIOTECHNOLOGY AND BIOINFORMATICS

Overview and Key Questions

Funded by the National Science Foundation's
Information Technology Experiences
for Students and Teachers (ITEST) Program



Personnel

- Dr. Simona Bartl, PI
 - Moss Landing Marine Laboratories
- Dr. Henrik Kibak, PI
 - California State University, Monterey Bay
- Dr. Helen Cagampang, Evaluator
- MLML Graduate Students and CSUMB undergraduates

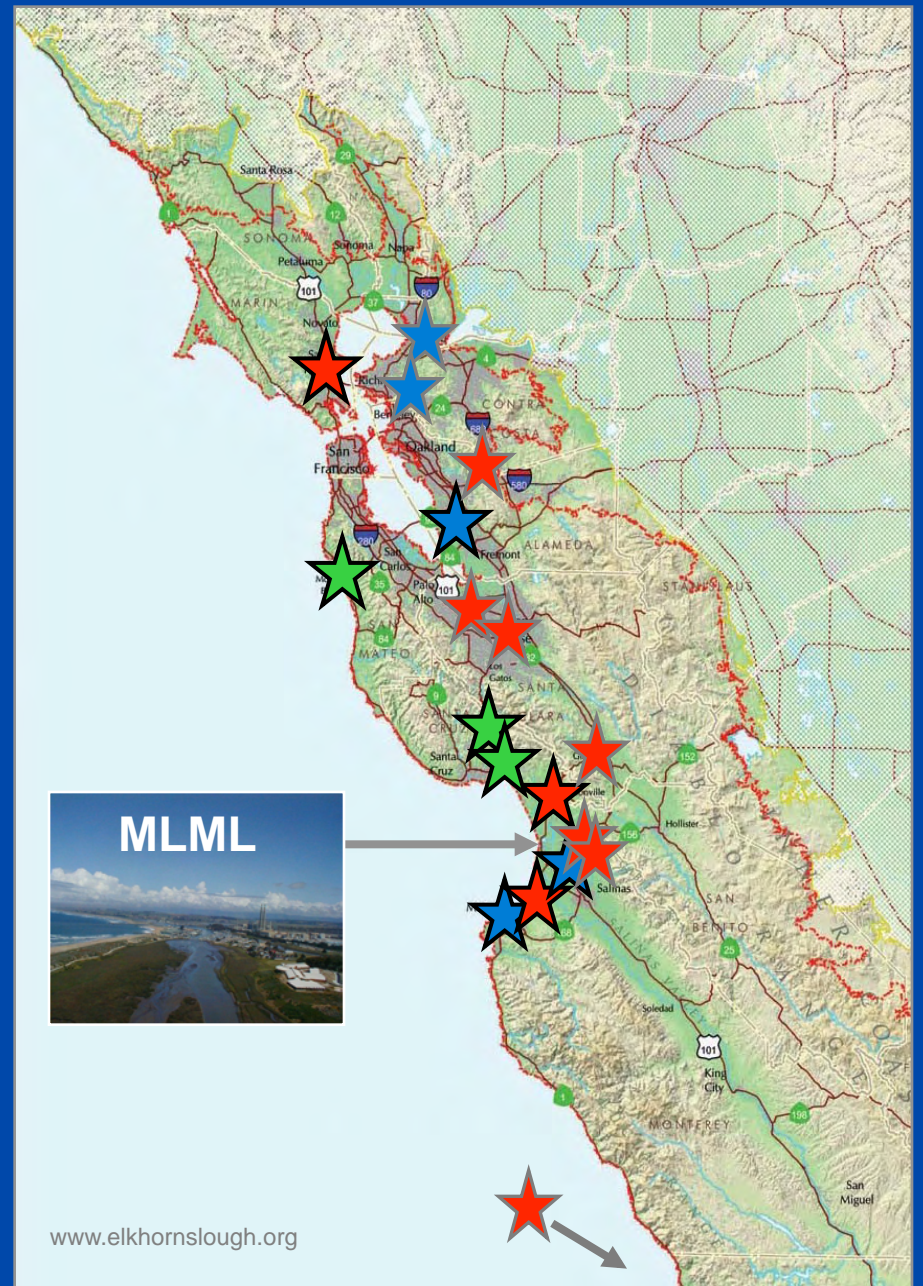
Workshop Location & Populations Served

On the central CA coast:

★ >50% non-white students
>25% free/reduced lunch

★ >25% free/reduced lunch

★ Other



Workshop Structure

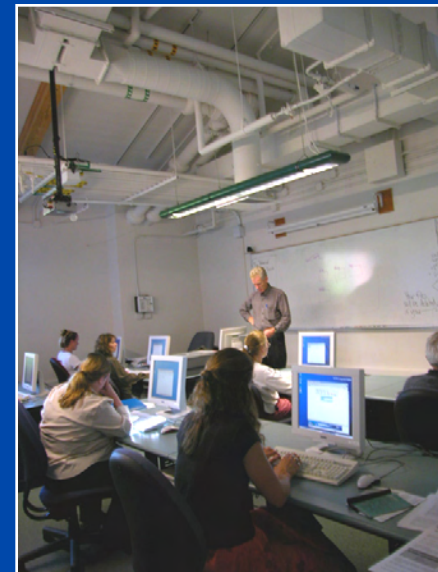


- Work through a question like scientists in the field
- Use biotechnology to obtain data
- Use bioinformatics to analyze data to address the question



Program Outcomes

- Provide teachers with:
 - An authentic science/IT experience
 - IT skills and content
 - Increased comfort and competence with applied IT
 - Standards-based curricula
 - Classroom support
 - IT career information



Preliminary Findings

- Teachers as IT learners:

- are interested and enthusiastic
- want to enhance their curriculum with IT content
- have access to the necessary hardware
- lack support at their schools
 - tech standards are not on the “test”
- lack IT technical support at their schools



Key Questions:

- What are we learning through initiatives like ITEST?
 - Diverse approaches are successful
 - There are common barriers

Key Questions:

- How can we replicate these experiences?
 - Provide funding
 - Integrate in pre-service and in-service training
 - Use approaches that fit the targeted region
 - Teachers, students, experts, resources, interests

Key Questions:

- What does it mean for teacher professional development and education overall?
 - More effective IT programs for teachers
 - More relevant and current IT curriculum for schools
 - Data to support policy and resource allocation to better support teachers efforts

Key Questions:

- How will your ITEST work live on – both specifically:
 - Programs
 - New cohort 3
 - Curriculum
 - Will be nationally available in 2008
 - Partnerships
 - With the entire CSU through CSUPERB

Key Questions:

- And in impact on the field:
 - Replicable elements
 - Format would work for most universities
 - Recommendations
 - Administrative & technical support at the schools
 - Policy impacts
 - Make technology education a funding and policy priority