



On the cover: A scanning electron micrograph of *Mycobacterium tuberculosis*, the causative agent of tuberculosis (TB), one of the world's deadliest diseases. One third of the world's population is infected with *Mycobacterium tuberculosis* and each year nine million cases and almost two million deaths are attributable to the disease. Only rigorous screening for TB has kept the United States relatively free of this condition.

In December of 2003, a nurse working in a newborn nursery in New York City tested positive for TB. By the time her infection was discovered, it was thought that she had exposed 32 coworkers, 613 infants in the newborn nursery, and 900 patients in the maternity ward to the disease.

On June 29, 2006, 1,225 civilians joined 5,000 sailors aboard the aircraft carrier U.S.S. Ronald Reagan for a one-week cruise from Hawaii to San Diego, during which time, the invited guests shared sleeping quarters with the sailors. One week after the cruise ended, a sailor on board was diagnosed with active tuberculosis, potentially exposing over 6,000 people to the disease.

In June of 2007, a 23-year-old Texas woman reported suffering from fever and severe headaches seven weeks after receiving a donated kidney. Further investigation revealed that the kidney donor had suffered from TB and that *Mycobacterium tuberculosis* was isolated from the blood of the organ recipient. The recipient of the donor's other kidney also contracted TB, dying of the disease nine weeks after the transplant.

These are the stories of microbiology, and the lab is where they all come together. This book uses case studies like the ones above to teach the skills needed, not just in the microbiology laboratory, but in the allied health workplace. The use of real-life examples means that laboratory techniques are learned within their proper context, critical thinking skills are sharpened, and a deeper awareness is gained for the relevance of microbiology in all our lives.

Save valuable class time, and help students learn.

The website that accompanies this laboratory manual offers a wealth of learning and teaching tools. A **digital photo atlas**, **pre-and post-lab quizzing**, and more will assist instructors in creating customized labs.

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