teenth-century silver needle with the initials E.I. or E.J., found in the soil at Boston's Mill Pond. "It is evident that women in early Boston, like women elsewhere, treasured their bodkins enough to personalize them and probably used them in social display," Beaudry writes in her book. Indeed, after lacing up, a woman might tuck the bodkin into her coif, like so much colonial bling. "They signaled all kinds of social status," says Beaudry.

She points to the widow of John How of Ipswich, Massachusetts, who was called into court in 1663 for wearing a silver bodkin in her silk scarf. At the time, the poor were forbidden to dress ostentatiously. The Widow How's accusers likely assumed — wrongly, it turns out — that she had fallen on hard times when her husband died, says Beaudry, and they believed that the highly valued bodkin did not befit her new status.

"I'm trying to talk about the emotional aspects of these objects," Beaudry says. "I find that they are not just about feminine identity, but about individual identity, and that's what has really caught my interest."

Beaudry also wants to separate by date the sewing implements dug up at the Spencer-Peirce-Little House and relate them to the women from successive households. She hasn't found the owner of the silver thimble; none of the occupants had the initials L.W.B. "We know that in the nineteenth and early twentieth centuries, the ladies who lived there had sewing circles," she says, "and of course they had cousins and aunts who would be sewing there, possibly losing their thimbles."

One of the difficulties is that, unlike the male homeowners, women rarely show up in historical records. "Whether the artifacts will inform me about their lives in a way that is richly satisfying, I'm not sure," Beaudry says. "And I'm not sure that needs to happen. It's forced me to bring them into the picture." **CYNTHA K. BUCCINI** 

## Scanning the Eye for Alzheimer's

## LASER-BASED TECHNOLOGY COULD MAKE EARLY DETECTION POSSIBLE

LEE GOLDSTEIN is on a quest to eradicate Alzheimer's disease, and he's racing the clock. "The disease will bankrupt the U.S. health-care system if we don't intervene soon," he says. "We simply won't have the resources to handle the number of people who develop the disease."

The key, says Goldstein, a geriatric psychiatrist and neuroscientist at BU's School of Medicine and College of Engineering, is early detection. He and his colleagues are developing a laser-based diagnostic technology that will uncover the disease years — and possibly decades — before the first symptoms emerge.

"Alzheimer's is an exceedingly slow disease that starts many years to a decade or more before the beginning of cognitive decline," Goldstein says. "If we can combine new treatments with early detection, we can beat this disease and do so soon."

Alzheimer's disease, the leading cause of dementia and the seventhleading cause of death in the United States in 2004, according to the Alzheimer's Association, occurs when sticky, tangled plaques containing deposits of the protein fragment beta-amyloid build up between nerve cells in the brain. Four years ago, Goldstein and his research team determined that this amyloid protein also collects in the lenses of the eyes in people with Alzheimer's disease and causes an unusual cataract that is different from common age-related cataracts.

"I was working with Alzheimer's mice," Goldstein says, "and I noticed they were developing dense bilateral cataracts in their eyes." Healthy control mice, on the other hand, showed no signs of cataracts. He then looked at the eyes of people with Alzheimer's disease and found the same cataracts. The discovery established the first evidence of Alzheimer'slinked pathology outside the brain and led Goldstein and his colleagues to



Lee Goldstein is developing early detection technology for Alzheimer's disease.

develop a laser-based diagnostic technology that searches for amyloid protein buildup in the eyes. Goldstein hopes that in another three years or so, people will be able to ask their physicians for a laser-based optical screening test for Alzheimer's disease. Six years ago, he cofounded Neuroptix Corporation, a biotech company based in Acton, Massachusetts, that is developing the technology to make such screenings possible.

"Our most recent work suggests that we may be able to detect the disease at the molecular level from the earliest stages, hopefully well before the first clinical symptoms," Goldstein says. VICKY WALTZ B