

From tee to cup, it's technology season

By Carolyn Y. Johnson
GLOBE STAFF

CAMBRIDGE — Wielding a 6-iron in lieu of a laser pointer and mixing terms like “back-swing” and “confidence interval,” TJ Tomasi kicked off golf season in Kendall Square yesterday with the results of a study sure to confound pros and casual duffers alike.

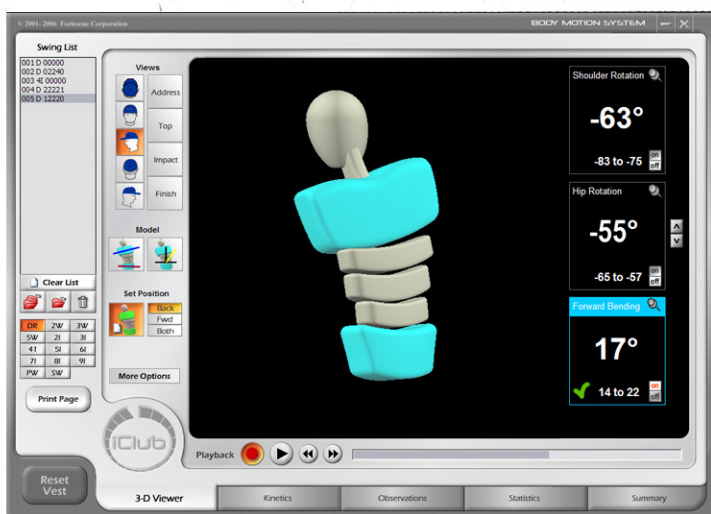
“The hypothesis is this: Since no research exists to the contrary, it is possible the typical back-

swing is not needed to hit good golf shots,” Tomasi said, describing the experiment that he and renowned golf pro Jim Suttie recently conducted at The Club at Twin Eagles in Naples, Fla.

This is golf, MIT style.

A hundred golf pros, gadget makers, golfers, and scientists filed into MIT's Wong Auditorium yesterday for the second annual Better Golf Through Technology conference. While the

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iClub Inc. offers golfers digital analyses of their swings.

Time for tees and technology

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university hosts a multitude of lectures and conferences each year, this two-day event — packed with presentations such as “A 3D Kinematic Investigation of Golfers’ Delayed Wrist Release” and “Movement of Center of Mass in the Golf Swing” — is the rare one that draws on research conducted with putters, drivers, and dimpled balls at places like Pebble Beach or Pinehurst Resort.

“It’s a little difficult to get these guys to come inside and spend a whole day in a conference room, so we plan it for the off-season,” said Kim Blair, director of the MIT Center for Sports Innovation. “And it has to be before the Masters.”

MIT may be known more for its physicists than its putters, but the university is an obvious place for such a conference, attendees said, because new technologies and software are creating an information technology revolution in sports. And golf — a sport filled with hobbyists and professionals who are willing to spend money to get an extra 10 yards from their swing — is taking the lead.

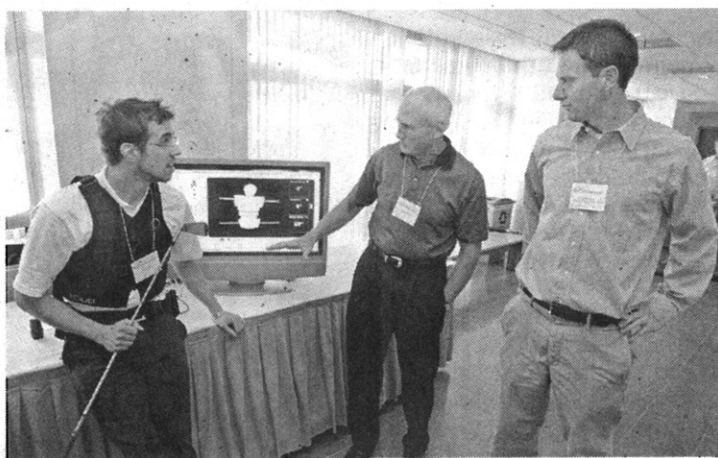
“Golf has become the most scientific sport in the world,” said Ben Shear, director of strength and conditioning at the Golfer’s Edge training facility in Scotch Plains, N.J. “This is not about just golf; it’s about the laws of the universe, and you can’t deny them” if you want to be good at the sport.

In the 1980s and 1990s, Blair said, the sports world went through a materials revolution, as new formulations of carbon fibers and advanced alloys made everything from tennis rackets to bike frames lighter and stronger.

But new motion-sensing technologies appear to be the next revolution, giving athletes and scientists the chance to understand the physics and biomechanics behind feats of strength and speed. It also gives them a way to quantify the results of time-honored practices.

“Here are the teaching methods we’ve used for years and years: Now we have the tools to see if they work really well,” Blair said.

This is applied science at its most recreational. The research



GEORGE RIZER/GLOBE STAFF

iClub engineer Arun Mehta described the firm’s technology to Jeffrey Bartlett (left), who is learning to be a golf trainer, and Todd Kenyon, a student at the University of Colorado.

and gadgets on display at the conference have as much to do with improving the sport as it does giving individual players an edge. For instance, iClub Inc., a Boston company, offers technology that transforms any club into a motion-sensitive device, providing amateur golfers digital feedback on their swing, while also giving scientists the chance to gather data about the speed, arc, and angle of a swing.

A study to be presented today found that among a sample of 85 golfers, only 15 percent could accurately aim at a hole from six feet away; Edel Golf, an equipment company, had a solution ready in a demonstration outside the conference room.

Using a simple laser setup, the company showed how poorly people take aim. Edel has developed custom putters to solve the problem.

“People’s perceptions of the putter affects people’s perceptions of aim,” said David Orr, director of instruction for professional golf management at Campbell University in North Carolina.

A few feet away from the laser-fitted putting green, a platform originally developed to help NASA astronauts reacclimate to gravity had been transformed into a golf training tool. The Dynamic Balance System gives people real-time feedback on the ways in which their center of mass changes as they bend their knees, move for-

ward, and swing a club.

Golf pros were not intimidated by MIT’s reputation for world class science, dropping names ranging from Tiger Woods to developmental psychologist B.F. Skinner and physicist Isaac Newton into conversations about how to improve the game of golf.

Still, they admitted that even with the weight of scientific evidence on their side, the game doesn’t just change overnight.

Tomasi, a pro from the Nantucket Golf Club who holds a doctorate in education, said golfers might improve if they started with the club poised at the top of the swing, like a baseball batter, avoiding the “kinesthetic clutter” of the backswing.

In his study, 29 golfers took 10 radar-tracked swings — half with a backswing and half without. Tomasi reported that except among professional golfers, there was no statistically significant difference in the accuracy or distance of the shots, and hypothesized that if instructors taught the “no backswing” technique, accuracy would improve.

But he also asked the audience what it would take to persuade golfers to ignore deeply-rooted tradition.

A member of the audience had the answer: “When they hit it farther and straighter.”

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