As a prospective student, Jodi James ’97 appreciated the opportunity to explore the interconnections between the two disciplines, but she kept hearing the same response: pick one or the other.

James refused. “I loved them equally and never questioned giving up one for the other,” she said. “I liked feeling that analytical side of my brain, but I also loved expressing myself through my body.”

By Heather Vander Plaat

When Jodi James ’97 was trying to settle on a college, doors seemed to be closing in her face when she told recruiters what she wanted to study: dance and science. She hoped to earn degrees in both areas and to explore the interconnections between the two disciplines, but she kept hearing the same response: pick one or the other.

James refused. “I loved them equally and never questioned giving up one for the other,” she said. “I liked feeling that analytical side of my brain, but I also loved expressing myself through my body.”

During a campus visit to Hope, James began to believe she could blend her dual interests academically. After receiving assurances from faculty in both disciplines that they would work with her to reach her goals, and realizing the size of the college meant “my engineering professors would eat lunch next to my dance professors,” James was convinced that Hope was the best choice.

“I think Hope provided me with the confidence in myself to not settle for second-best,” she said. “If you believe in it, you will achieve it.”

Today – more than 10 years after earning undergraduate degrees in dance and engineering-physics – James is still exploring the intricate relationship between dance and science, but on a professional level. She teaches and conducts research at Arizona State University’s Arts, Media and Engineering (AME) program. AME brings together faculty and graduate students from varying disciplines – ranging from dance and psychology to computer science and bioengineering – to research concepts in motion analysis. The emerging area revolves around the idea that movement and technology can integrate to create useful applications in everyday life (for example, stroke patients undergoing rehabilitation can practice reaching and grasping tasks in an interactive environment that provides visual and audio feedback).

“AME is a very progressive program,” James said. “Similar models just don’t exist, so we’re actually changing the paradigm in which we’re thinking about interdisciplinary education.”

After joining AME in its infancy in 2003, James has spent much of the past four years developing motion analysis systems. In 2001, she and others at AME worked with well-known choreographers, Bill T. Jones and Trisha Brown, to create the groundbreaking movement project, an interactive dance performance that uses motion capture technology and real-time feedback to analyze and enhance dancers’ movements as the performance occurs.

More recently, James has been implementing SMALLab (Situated Multimedia Art Learning Lab) into school classrooms. SMALLab consists of an open physical space (15 feet by 15 feet by 12 feet) framed by aluminum trussing which supports a vision-based tracking system, video projector for visual feedback and speakers for spatialized audio feedback. Students in the SMALLab environment can use full-bodied movement to act out, for example, scenes from a book. Based on students’ movements, the system feeds audio and visual stimuli (such as photographs) back into the space. The goal is to encourage learning through expressive movement, vocalization and imagination.

“Last year, we were in residency at a local performing arts charter school, building workshops around SMALLab,” James said. “This year, we’re at a high school, doing language arts programs for students who have difficulty excelling in that area, and they’re doing so well using this interactive space.”

Linda Graham, professor of dance and chairperson of the department at Hope, has kept in touch with James over the years, inviting her last spring to teach a May Term class on dance and technology. Graham noted that James’ passion, curiosity and discipline have served her well in her professional life.

“Jodi’s tremendous gift is her ability to be sensitive to the perspectives of dancers, choreographers, researchers, scientists, and technologists,” Graham said. “It’s that ‘multilingual’ ability – along with her skill in interacting with people where they are and bringing them to new areas of knowledge – that contributes to her success.”

As a Hope student, James dove deep into dance and the sciences. In addition to performing in numerous college dance concerts, she created a dance piece, Oscillation, for a choreography class, first performing it at Hope, and then presenting it at the American College Dance Festival in Iowa. Her engineering studies also afforded her one particularly distinctive opportunity: two weeks of training and research at Johnson Space Center in Houston, Texas. The experience included an unforgettable ride aboard the KC-135A, an airplane that uses steep ascents and sharp freefalls to simulate weightlessness. James (a self-described “space geek”), along with four other Hope students, earned the trip after submitting a winning research proposal to NASA as part of the space agency’s “Reduced Gravity Student Flight Opportunities Program.”

James said she had an announcement about the program early in her senior year, and had pitched to her engineering professors the idea of using a research project about the effects of weightlessness on motor skills as her senior design project.

“They told me it would be okay to write a research proposal instead of designing an object,” recalled James. “This is a perfect example of how Hope meets students where their interests lie.”

After graduating from Hope, James began graduate studies in biomedical engineering at the University of Vermont, but found it to be the wrong fit because she wasn’t able to incorporate dance and movement into her research. In 2001, she completed a master’s in dance kinesiology at the University of Michigan, but again, didn’t find the right match. While searching online for a different program that would more fully integrate dance and science, she discovered AME, but it was a job opening for a lecturer in the program that really caught her eye. Within three months, she found herself living in Arizona and teaching at AME.

“It wasn’t until I started in this position that I really felt like I was ‘home’ again,” she said. “Here, I’m able to follow my passions for art and science in the ways I want to.”

Junior Lindsey Ferguson is shown live through a transmission from off-site via the Internet, while classmates Melissa Willett and Carolyn Brands perform in person in Jodi James’ May Term at Hope.

“I think Hope provided me with the confidence in myself to not settle for second-best. If you believe in it, you will achieve it.”

– Jodi James

In May Jodi James ’97 returned to Hope and shared her long-time interest in blending dance and technology with current students. Pictured with James are junior Melissa Willett and senior Carolyn Brands.