

## BIO QUEST: SCIENTIST PROFILE

# BIOENGINEER WHO MAKES NEW LIMBS



### YOKY MATSUOKA

BIOENGINEER AT THE UNIVERSITY OF WASHINGTON IN SEATTLE  
**She builds artificial hands, arms, feet, and legs. Her goal is to make limbs that snap on and can be controlled directly by the brain.**

#### *Job Description:*

Yoky made a model of a human hand with three fingers. She will use monkeys to test it. First the monkey will be sitting in front of a bottle with food in it. Its arms will be strapped to its side, and wires will connect its brain to a computer, then to Yoky's model hand. The monkey will send brain signals to the computer which will move the model fingers. Yoky hopes that the monkey will be able to control the model hand with its brain, open the bottle, and get a snack. Her final goal is to make model limbs for people who have lost theirs. These models will pop on and be ready-to-go!

#### *Biography:*

When she was young, Yoky loved to play sports, solve puzzles, collect rocks, and do math and science homework. In school, she was quiet and never asked questions. She didn't like subjects that had to do with feelings, like psychology. Instead, she loved physics and math. Yoky learned by remembering the context (where, what, and how she learned) in her brain. Though she didn't use a lot of special tools to learn, she did keep a journal. It was mostly about boys, though!

Yoky was a great tennis player, and dreamed of being a professional. When she was on the court, she also did a lot of thinking about how her brain was controlling her hand. She thought about how her brain helped her swing the racket at just the right time and angle. Many times, she felt like quitting, but she kept playing until she was in college.

In college, she knew that she would never be the number one tennis player in the world, and that she wanted to become a scientist. Yoky learned that she couldn't do everything, so she had to figure out what was most important to her.

#### *Yoky's advice for young scientists:*

"Work hard but also play hard. Play sports. Play music, etc. These exposures will allow you to find out what you really like and can pursue without getting sick of it for a long time."

For more information about Yoky's work, click on:

[http://www.ri.cmu.edu/projects/project\\_443.html](http://www.ri.cmu.edu/projects/project_443.html)

<http://www.popsci.com/popsci/science/8986e1bddf565110vgnvcm1000004eebc cdrd/9.html>

