possible to take direct measurements of drag-induced strain at the surfaces of almost any material. I was able to successfully use the SEM in conjunction with different micro fabrication techniques to produce a prototype of nanostain gauges. From this experience I learned to work in a Class Ten Clean Room, with plasma deposition devices and a number of other types of experimental equipment.

My research experiences have provided me with a means to explore technologies of the present and the future. They have also allowed me to develop my analytical and manufacturing skills. The confidence and engineering background I gained helped me secure a full-time position with Boeing. There I will be able to continue my career goal for a Ph.D. and continue researching technology related to my fields of interest and dreams.

Exploring the World of Nanoelectronic Materials

IKUE YOKOMIZO, Class of 2007, Major: Chemical Engineering

In the Molecular Beam Epitaxy lab at The City College (CCNY), Professors Aidong Shen (Electrical Engineering) and Maria Tamargo (Chemistry) study the growth and properties of nanostructures of semiconductor materials for applications in novel photonic and electronic devices. One of the projects involves the design and fabrication of quantum cascade lasers, highly engineered multi-layered structures that can emit light throughout the infrared spectral region.

Ikue Yokomizo (second from left), co-mentored by Professors Shen (far right) and Tamargo (second from right) performed research on the fabrication of these novel intersubband devices from wide bandgap II-VI semiconductors. Through her research work, she learned how to fabricate waveguide structures from the grown samples by mechanical polishing and chemical etching. These waveguide structures were then used for Fourier Transform Infrared (FT-IR) spectroscopy measurements, which were essential for assessing the materials quality. She also performed materials characterization by X-ray diffraction and scanning electron microscopy. Her work resulted in the publication of four research papers in prestigious scientific journals such as Applied Physics Letters and Journal of Vacuum Science and Technology. Ms. Yokomizo graduated from the Department of Chemical Engineering in June of 2007. Her accomplishments at CCNY led to a job as Processing Engineer at SanDisk in Japan.