I was very lucky to have an intern opportunity this summer at Mitsubishi Electric Research Laboratories (MERL). I worked on an interesting project – color calibration of the DataWall.

The DataWall uses DLP projection where DLP is a pure light mixing model with the primaries’ spectral power distribution determined by the lamp spectrum, filter wheel, and optics. The problem was that component variation causes different cubes to have different primaries and installer find it difficult and time-consuming to adjust the color balance in video cubes to make them all produce color consistently. So the goal of this project was to investigate if a digital still camera can be used to characterize color response and match them between cubes. Several approaches were investigated to predict color coordinates CIEXYZ from camera digits. Once the color values were obtained for each cube, a common gamut was defined and a color correction matrix can be calculated for each cube. One of the problems with the camera approach was that a camera match might not be a human match. To address this issue, some spectral based models should be further investigated.

My learning and research experience at MCSL has helped a lot and given me the ability to approach real-world projects with confidence. It was a great opportunity and wonderful experience. I had a very good time and enjoyed working at MERL.

~Hongqin (Cathy) Zhang, PhD Imaging Science Candidate
Hewlett-Packard, Vancouver, WA

I received a Bachelor of Electrical Engineering degree in India in 2000, and an MS degree in Architectural Engineering (Lighting) from Penn State University in 2005. The same year I joined the Color Science MS program at MCSL, which I think was a significant and positive change in my career direction.

This year I was a summer intern working for the color imaging team at Hewlett-Packard Company in Vancouver, WA. The principal responsibility was to develop a framework that could be used for ongoing image quality (IQ) evaluations. I developed a GUI-based software tool that sets up the psychophysical experiment parameters, records observer decisions, and analyzes the data such that products or attributes may be compared and evaluated. As a practical demonstration of the software, I set up an experiment to compare the copy IQ of several machines, including the current product under development. At the end of the assignment, I presented an overview of the project to my team, summarizing the results of the data analysis. I also compiled a detailed project report. My manager and other team members were very satisfied with the work.

This was a great opportunity for me to utilize the knowledge I gained during my coursework at MCSL in a practical, real-life situation. I owe the success of the project largely to my coursework at MCSL and Dr. Ethan Montag's advice at the start of the project. I had a wonderful time working with my team at HP, and loved living in the beautiful city of Vancouver. I am now looking forward to an exciting academic year full of interesting research work here in the lab.

~ Abhijit Sarkar, MS Color Science Candidate

Xerox Corporation, Rochester, NY

As a summer intern, I had been working for Xerox, Inc during the last two summers. Headquartered in Rochester, NY, a well-known center of optics, Xerox is a global printing company dedicated to providing office solutions. One of its major R&D facilities is also located in Rochester. Every summer, it offers excellent opportunities for students with different levels to broaden their knowledge base, gain industry experience, and apply their academic research to product development.

I first met my manager, Dr. Raja Bala, at RIT, where he taught the course of optimization in the department of Electronic Engineering in the winter quarter of 2004. As one of the best students in his class, he generously offered me an exciting opportunity to work with him the next summer.

I joined the research group of Intellectual Image Workflow at Image Service & Technology Center under the umbrella of Xerox Innovation Group. My research was to develop UV printer models with fluorescent substrate. I have made significant progress to that end, resulting in both prototype production and intellectual property, including three invention disclosures. The course work and experimental experience learned in MCSL has always provided a solid foundation for me to successfully carry out my research at Xerox.

During my stay at Xerox, I have not only learned a tremendous amount of knowledge, but also gained deeper appreciation on importance of teamwork, planning, and communication skills, which are essential within a multi-disciplinary research team.

~ Yonghui (Iris) Zhao, PhD Imaging Science Candidate