Season Tse, Senior Conservation Scientist, Canadian Conservation Institute

Interviewed by Makedonka Gulcev (MAC 2016)

For the 40th anniversary celebrations at Queen's, Makedonka Gulcev, a conservation science student, interviewed Season Tse about her colleague Helen Burgess. Because Season has been a mentor and colleague to so many Queen's students and faculty, we wanted to ask her about questions about the field and her career.

Season Tse is a senior conservation scientist at the Canadian Conservation Institute (CCI). She received a B.Sc. (Hons) in Applied Chemistry at the University of Waterloo and an M.Sc. in Chemistry from Carleton University, Ottawa. Season has worked in a number of important conservation research areas, including the stabilization and treatment of historic paper and textiles, in particular by using washing, mass deacidification, enzymes, chelating agents and conservation bleaching. Her work has also included stabilization and conservation of documents with iron gall ink and the assessment of light degradation using the microfade tester. Our students in the program have had the pleasure of working with her over the years, benefiting from her expertise and her ability to collaborate with professionals in various areas of the conservation field.

Q Please tell me about your career path – how did you get your current job?

A In my M.Sc. research, I studied the oxidation of mercury by the peroxidase enzyme. In 1984, CCI advertised for an assistant conservation scientist to carry out characterization of enzymes for the treatment of paper. My experience with enzymes got me that job, as I was completing my M.Sc. degree. Helen Burgess was my supervisor and Cliff McCawley was the 'Chief' or manager of the Conservation Processes Research Division at the time. Helen taught me what I needed to know about cellulose analysis and conservation, and showed me how to work with conservators to support them and to carry out research with them. I was extremely fortunate to have Helen as my mentor at the beginning of my career, but my prior experience working in research labs during the summer and during co-op employment really helped me to work independently as a researcher and to learn new techniques.

In my first project, I characterized over 28 commercially available amylases and proteases, to determine their pH and temperature profiles and their effect on paper. After that I worked with Helen doing research into peroxide and borohydride bleaching of paper, washing and aqueous deacidification of paper, and evaluation of mass deacidification systems. In 1995, I branched out and carried out research in cellulosic textiles and developed analytical techniques for measuring silk deterioration. In 2001, in response to requests from conservators in archives for research into preservation of iron gall ink documents, I collaborated with Sherry Guild, a paper conservator at CCI, and Maria Bedynski, a paper conservator at Library and Archives Canada, and began the Canadian iron gall ink project. This project consisted of some research, bridging gaps between information from European research and applications to Canadian collections, and knowledge dissemination via publications and workshops. From 2008, my main focus was to develop microfade testing as a research tool as well as a service for Canadian museums, galleries and archives, to identify light-sensitive objects that might be damaged by prolonged exhibition.

Since the late 90's, after Helen retired for medical reasons, I took on the responsibility of helping and advising paper and textile conservators on treatment-related questions - the role that Helen had filled until she retired. I have been doing that work ever since.

Q What do you like most about your job?

A Even after 30 plus years, I love my job and the people I work with. I am very thankful to CCI for creating an environment where staff have the freedom to learn, to experiment, to collaborate and to share knowledge, all for the purpose of preserving Canada's heritage. I love that.

At the top of the list of what I like most about my job, is the opportunity to learn and to help people solve problems. I get to learn about materials and why they deteriorate, methods of detecting change, remedial treatments and how to implement effective treatments given all the constraints. I love collaboration, with both conservators and other scientists, whether towards a treatment or research. They have different knowledge, perspectives and concerns. I learn from them and I love the synergy when we work together. As an outlet for the accumulated knowledge, I have the chance to share what I have learned with colleagues, and help them when they are faced with treatment decisions, or through publications and lectures.

Q What advice would you give to students or new graduates?

A I believe in leveraging on all experiences, even bad ones, because they prepare us to take opportunities that open before us. Treat every problem or need as an opportunity to serve, to learn and to build knowledge - learn from the experience, learn from people, learn from mistakes. Make the most of it, don't waste it even if it didn't work out the way you expected. It will be useful one day.

Strive for excellence. Be fully present in everything you do. Be curious. Be flexible yet disciplined. Be persistent. Always look for opportunity to create synergy. And be generous in sharing knowledge. These are qualities that I benefitted from and admire in so many of my colleagues.