February 13-18, 2011: For the 3rd year in a row, WIN and NanoOntario secured travel funding from the Department of Foreign Affairs and International Trade’s Going Global Innovation program to advance collaborations with NIMS, TiAnano, NEDO, CSTP and industry partners. WIN also attended the NanoJapan Conference at Tokyo BigSight. The WIN delegation worked extensively to arrange and meet with 37 identified individuals over 9 different meetings, visits and discussions.

**NIMS**

The delegation visited its “sister institute”, the National Institute for Materials Science in Tsukuba, Japan. The objective was to advance projects defined during last year’s WIN-NIMS workshop and agree on a date and theme for a reciprocal WIN-NIMS workshop in Waterloo. Stewardship of the relationship at multiple levels and observance of protocols is an important step in advancing the partnership objective.

Drs Kleinke and Gu visited with faculty members on individual projects. Dr. Kleinke established a working relationship with Dr. Shinohara of NIMS energy materials division. A formal meeting was held between Dr. Ushioda (President of NIMS) and Dr. Carty (Executive Director, WIN) who agreed to fund a reciprocal workshop in Waterloo in 2011.

**TiAnano**

Dr. Carty and Mr. Frances met with the leaders of Tsukuba Innovation Arena (TiAnano) to discuss partnering with WIN. TiNano is the regional nanotechnology network consisting of:

- National Institute for Materials Science (NIMS)
- National Institute of Advanced Industrial Science and Technology (AIST)
- University of Tsukuba.

These three partners agreed to integrate their research capabilities to form a global center for nanotechnology innovation. WIN is now exploring becoming a partner in the TiAnano network.

**Industry Collaboration**

The delegation visited 3 major companies with the intent to find collaborations among researchers. Substantial visits were made to:

**Fujitsu Laboratories:** WIN established a firm opening relationship with Fujitsu’s Nanotechnology Research Center (NRC). Dr. Naoki Yokoyama (General Manager of the NRC at Fujitsu Labs) shared the following research areas common with WIN:

- Nano-scale carbon composites
- Quantum Cryptography
- Quantum Dot Lasers

**Toray Industries:** Toray is one of Japan’s major advanced materials firms with 38,000 employees. Toray has nanotechnology enabled products including colorless transparent films, carbon nanotubes, fine polymer particles, carbon fiber composites, membrane bioreactors, drug delivery systems and high-sensitivity DNA chips. Dr. Kleinke (WIN) was asked to follow up with their energy materials division to discuss a collaborative research project in thermoelectric materials for automotive applications.

**NanoCarriers Inc:** The goal of Nanocarriers is to develop self-assembled nanoparticles to treat cancer. Dr. Frank Gu of WIN is an expert in polymeric nanoparticles (NP) for targeted cancer therapy. Dr. Ito Taichi of NanoCarriers is developing nano-membrane technology to separate nanoparticles. A project was proposed to combine the two technologies to improve the uniformity and consistency of NP formulation potentially leading to low cost, high quality nanoparticle manufacturing.

**CSTP**

A meeting was held with Dr. Aizawa (Executive Director) and Mr. Numijura (Deputy Director) of the Council for Science and Technology Policy (CSTP). Dr. Aizawa and his team has just completed work on Japan’s 3rd Year Plan which defines the countries S&T strategy. Dr. Carty (Former Science Advisor, Canada) is a member of the Expert Advisory Group (EAG) on Canada-Japan S&T Collaboration. Dr. Aizawa and Dr. Carty discussed priority areas and funding mechanisms to increase partnership between the two countries.