

Student's Path Enhanced by Niagara Research

*When **Steven Niles** attended Niagara College for the first time in 2006, he had no idea how involved he would become with the College, its research to assist local farmers and growers, or that he would even have a chance to meet Royalty.*

GROWING UP IN ST. CATHARINES, Niles had an interest in computers and programming and dabbled with QBasic, a DOS program, in elementary school. After high school, it didn't take long for Niles to figure out his next step. "I nearly ended up going to school for audio engineering, but decided that programming was still my calling," remembers Niles.

In 2006, he was accepted to attend Niagara College for the Computer Programmer/Analyst program. Eager to excel, Niles applied for a student position with Niagara Research when prompted by one of his professors, Marsha Baddeley. "I knew it would be a good opportunity, so I applied, but they gave the position to another student who needed it for his co-op placement," said Niles. "When another position opened up, they remembered me, asked me to come in and I was hired."

Niles began his work with Niagara College's applied research department, Niagara Research, with a project near its completion, allowing him to hone his skills. Later, Niles became involved in a new project called PrAgMatic, short for Precision Agriculture Automatic. PrAgMatic is a web-based service being developed to assist growers, such as farmers and vineyard owners, to manage their fields more efficiently. PrAgMatic works by collecting data from a number of sources, such as infrared satellite and radar stations, weather towers, sensor networks and soil surveys. The data is then combined and collated into useful information for the farmer, such as frost warnings or short-term forecasts, tailored for that specific farm.

Niles worked with Niagara Research while completing his studies at Niagara College. He completed the co-op component of his program and a project in his final semester with Niagara Research working on PrAgMatic. "My final term project was to build one specific module, or data channel, for PrAgMatic that would display a vineyard in 3D, with the location of each vine plotted and tagged with that vine's varieties, such as Pinot Noir or Syrah," explained Niles.

Currently, Niles remains a part of Niagara Research and is responsible for writing a number of modules, or data channels, for the PrAgMatic system. He sets up and maintains some of the system's databases. He also attends conferences and conventions (such as FSOSS, Dig London and OCE Discovery) to speak about PrAgMatic and to get a better understanding of the work other researchers in the field are doing.

"I've even had the opportunity to speak at press conferences, college open houses and present to the former Premier of Ontario, Bob Rae," said Niles. "I never thought I would have had these opportunities when I first began at Niagara Research and I'm very grateful."

On November 5, 2009, Niles had the opportunity to present the PrAgMatic project to His Royal Highness the Prince of Wales, during a Royal visit to Niagara College to commemorate the grand opening of the new Wine Visitor + Education Centre.



Steve Niles (right), along with Dr. Mike Duncan, Chair of Visualization Sciences (centre), and Computer Programmer/Analyst student Tom Koole demonstrated Niagara Research's Precision Agriculture project to the Prince of Wales during His Royal Highnesses visit to Niagara College November 5.

Working with Niagara Research has given Niles the opportunity to put his skills and knowledge gained in the classroom to the test. "Working on real world applied research projects provides students with the opportunity to take the skills they have learned in the classroom to a new level," said Natalee Tokar, Project Manager, Research and Innovation, Niagara College. "In the time that Steve has worked with Niagara Research, he has had the opportunity to not only enhance his skills in his area of study, but also develop excellent presentation skills."

Niles also had the opportunity to learn about a variety of things not directly related to computer programming as a result of working on the PrAgMatic project, such as radar stations, weather patterns and interpretation of satellite imagery.

"Steven has worked on applied research projects with Niagara Research in a variety of capacities, including through course-based research projects, as a part-time Research Assistant, on a full-time co-op and is currently employed as a research graduate intern," said Tokar. "He was also given credit for his work with Niagara Research, which is really unique."

"I think it's a very well-rounded understanding you get by working in a research project like this," notes Niles. "There is so much more to be learned from real work experience." In the Fall, Niles will be taking advantage of an articulation agreement between Niagara College and Brock University to continue his education. Niles will be given a year's worth of transfer credits from the College to attend the University for Computer Science.

“I never could have expected that working here would lead to something as amazing as being able to present to His Royal Highness. I can still barely believe it actually happened.”

Niles would like to remain working with Niagara Research as much as his studies will allow, but is excited about his future.

"I know that I wouldn't have a lot of the skills I now have if not for my time with Niagara Research," said Niles. "I have no idea what opportunities may come and take me in new directions, but it will be an adventure, wherever I end up." 

Niagara Research, in partnership with business or community partners, conducts applied research projects that model or simulate solutions, develop and test prototypes, adopt new technologies and knowledge, develop and evaluate new or improved products, processes, or solutions to community issues. Research activities are administered through the Research and Innovation Division and are conducted by faculty and staff experts. Students are one of the main methods of the College's transfer of knowledge to business and industry partners through applied research projects, work placements, and as skilled and knowledgeable graduates.