

## **W:02 Engaging Female High School Students in Computer Programming via Virtual Family**

Time: 2 hours  
(2 sessions offered)

Leader: Maria Klawe, with members of SWIFT  
University of British Columbia

Conference delegates have an opportunity to learn about a new approach to programming through a two-hour hands-on workshop called Virtual Family. Virtual Family is one of the projects initiated by SWIFT (Supporting Woman in Information Technology). The aim of SWIFT is to increase the participation of woman in information technology, a growing field in which they are currently dramatically under-represented.

Virtual Family strives to show students, and particularly high school girls, that programming can be fun. It is made up of four characters: a mother, a father, a daughter and a son (players can also choose to include a number of pets). The game includes a user-friendly Java programming environment, which makes it easy to make the characters perform various actions, and have other characters react to these actions. The use of graphics, sound, animation and color makes the game appealing to students, and especially girls. Its aim is to move away from the traditional (and dry) “Hello world” introduction to programming, and to change the very image of programming by making it fun, accessible and non-threatening to non-programmers.

### **Workshop Structure**

1. The first section will focus on introducing Virtual Family to the tutorial members. In this section, we will:
  - discuss the motivation behind SWIFT
  - introduce Virtual Family
  - describe the principle design considerations / goals of the project
2. The second section will involve a Virtual Family tutorial demonstration. The tutorial takes the following structure:
  - a. workshop participants explore the Virtual Family applet
  - b. a walk-through of the Virtual Family code is provided
  - c. a guided addition of a new simple action to a virtual family character by the workshop participants is provided
  - d. debugging / trouble shooting strategies are discussed
  - e. a guided addition of a reaction to a virtual family character is provided
3. Closing Remarks / Future plans