Gaussian 03 software. NMR spectra were calculated using the GIAO method. IR spectra (4000 to 400 cm^{-1} at 0.5 cm^{-1} resolution) were obtained by injecting 10 µL of the alcohol into a 10 cm pathlength stainless steel vacuum cell place in the sample compartment of a Nicolet 6700 FTIR. Vapor phase NMR spectra were obtained by placing 0.15 mL of the alcohol in the outer tube of a standard 5 mm OD double NMR tube. A Bruker Spectrospin 400 and a Bruker Spectrospin 600 NMR equipped with a variable temperature probe were used to collect the NMR spectra. D_2O was placed in the inner tube as the lock solvent. While the calculated chemical shifts were in qualitative agreement, the quantitative values varied by $\pm$ 0.2 ppm when adjusted to the same reference. The IR frequencies showed a decreasing error at the lower frequency. Since the calculations give the harmonic frequency, part of this difference may result from ignoring the anharmonic terms. The relative intensities generally agreed within a factor of 2.

SIZE TUNABLE HIERARCHICAL POROUS STRUCTURES BY DIRECT TEMPLATING. Bo Zhao, & Maryanne Collinson, Dept. of Chemistry, Virginia Commonwealth University, Richmond VA 23284-2006. Materials with bimodal porosity are of great interest in a diversity of applications of separation, catalysis, and sensing system. In this work, hierarchical porous materials were made by colloidal crystal templating with “raspberry” and “strawberry” shaped templates. These monodispersed hierarchical templates were prepared by simply coupling polystyrene beads of different sizes together. Both the “center” and “satellite” spheres can be varied, and the coverage of “satellite” spheres on the surface of the “center” sphere is tunable by reducing the coupling speed. Based on the templates, bimodal hierarchical porous silica monoliths and gold films were fabricated by sol–gel templating method and electrodeposition, respectively. The materials possess adjustable and well-defined bimodal pore sizes with interconnected windows. In this presentation, the synthesis and applications of these unique materials will be discussed.

Computer Science

USING SECOND LIFE FOR COMPUTER SCIENCE EDUCATION. Robert A. Willis Jr. Department of Computer Science, Hampton University. Over the past few years, I have noticed that our students are reluctant to approach learning computer science in the traditional ways. Computer science requires beginning students to learn the concepts of computer science and the art of programming. While disparate, both of these facets require a good deal of study using texts and practice. Second Life is used to implement a number of innovative interactive tutorials tailored for this generation of students. Furthermore, the environment is conducive for instruction in a number of other areas in computer science (and other disciplines). Second Life is a three dimensional virtual world. It is a social environment that allows people to “live” much as they do in real life. People (represented as avatars) can purchase land, build houses, work, play, and participate in many other activities. It is an ideal environment to reach all levels of students.

INTERACTIVE PARAPHRASE TRAINING: THE DEVELOPMENT AND TESTING OF AN ISTART MODULE. Chutima Boonthum. Department of Computer Science, Hampton University. Hampton, VA. Comprehension of science texts is challenging, particularly when the reader lacks the skills or knowledge necessary to fill in conceptual gaps in the text content. The iSTART system was developed to help readers learn and practice reading strategies to improve their ability to comprehend challenging text. This study describes a new iSTART module recently developed and tested, called Interactive Paraphrasing (IP), in which students are interactively and adaptively taught how to paraphrase sentences. We compared the effects of iSTART to iSTART with IP (IP-iSTART) with high school students on their strategy use and ability to comprehend text. IP-iSTART increased skilled readers' self-explanation quality, improved their ability to answer online comprehension questions, and increased their use of paraphrases after training. Less skilled readers benefited most in self-explanation quality from the original version of iSTART. Results are discussed in terms of tailoring reading strategy training to the needs of the reader.

GENERATION Y AND COMPUTER LITERACY/EDUCATION. Angela Hayden. Department of Computer Science, Hampton University Hampton, VA. The generation of Americans born between 1977 and 1994 are affectionately known as Generation Y. They hold to similar values of their parents, but will challenge authority and the information given them in any setting. They possess a variety of skills including computer skills, making them the most computer literate of all generations prior to them. They can be stimulated through a variety of means, most of which are visual and audio. They also appreciate having fun more than just learning facts. Strategies for both study and pedagogy offered as suggested means to help students learn have not changed much in recent years and can still be used for those entering college over the next two or three years. One such strategy includes visual/auditory where students are asked to read aloud, record and play back definitions to terms, or visualize certain tasks. At HU, we offer students in our CSC 120, Intro to Computer Literacy course a method that requires them to do much more than just passively sit in class and take notes. This method, where students learn computer applications using hands-on activities, is not without its problems and challenges, but overall most students do extremely well and some have express not only satisfaction with the course, but acknowledge that learning has occurred.

Education

INCORPORATING LEARNING STYLES INTO A SCIENCE LECTURE COURSE. Lisa S. Webb, Christopher Newport University, Department of Biology, Chemistry and Environmental Science, 1 University Place, Newport News VA 23606. Learning is a complex and highly individualized process that can, and does, occur in a variety of modalities. Students can learn visually, through pictures, diagrams, charts, animations and reading; they can learn aurally, through listening to lectures, discussions, music and conversations; they can learn in a tactile manner, through manipulation of a three-dimensional model or tracing the shape of a graph with their fingers; and they can learn