Introduction to Volume 4 Issue 1

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Forward

In this issue we provide a articles that present excellent examples of computational science educational materials and sources of materials for teaching computational science. Yasar provides an overview of a general education curriculum that uses computer modeling to both build analytical skills and teach basic concepts in science and mathematics. He documents the success of an introductory course and also summarizes the course sequence that move students from using existing models to programming skills that build new models.

Shiflet and Shiflet present an article on the use of probabilistic models to trace the age of populations over time. The models were applied in several classes focusing on the mathematical concepts and the scientific understanding of the students. Markov chain models were used to model the populations of a variety of species, tracking them by age and the probabilities of survival and birth.

Ringenberg and Magana provide a review of STEM focused computational materials that are web accessible. They provide an interesting analysis of the number and types of materials available along with a table of the resources and their classification of their contents.

Chen *et al* provide a review of a research program for undergraduates in mathematics that focuses on computational mathematics. They describe the developments within their department, the creation of a research workshop, and the impacts of that program on their students and their department.

Finally, two student papers summarize their computational projects and the impacts of those projects on their own learning. Tudor and Space describe experience as interns working on a massively parallel Monte Carlo code using GPUÕs. Crawford and Toth describe the use of the knapsack problem to introduce parallel computing and describe the lessons learned from the project from both the student and instructor view.