Geology professor instructs teachers at acid rain workshop
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Dr. Michele M. Hluchy, chairman of the environmental studies and geology division at Alfred University, joined three colleagues from Colgate University in the Adirondack Mountains to conduct a four-day workshop on acid rain for 10 middle and high school teachers from across the state.The session was made possible using funds from the nearly $1 million grant the group was awarded by the National Science Foundation in 2005.This summer's program began with an overview of the geology and geologic history of the Adirondacks. This was followed by the excavation of several soil pits and then a focus on streams and water chemistry. During the course of the workshop, the teachers sampled streams differentially affected by acid precipitation, examining water chemistry and leaf decomposition processes in acid-sensitive and circum-neutral streams. The four-day program concluded with a session on integrating the workshop activities and concepts into the classroom. The teachers were taught a variety of techniques for studying ecosystems that they can bring back t their classrooms. The grant also provided funds to purchase materials and equipment that the teachers were given for their schools. The three additional faculty members, all from Colgate University, included Richard April, professor, Department of Geology; Randy Fuller, professor, biology and environmental studies; and Tim McCay, associate professor, biology.Acid precipitation results from emissions released during the burning of fossil fuels. In the northeastern United States, many of these emissions come from coal-fired power plants in the Midwest. The airborne emissions are carried by the prevailing winds, which blow from west to eat, and as they rise over the mountains, they are incorporated into rain and snow that condense in the cooling air masses.The sulfur dioxide released by the burning of coal becomes sulfuric acid, and the nitrogen oxide released during petroleum combustion becomes nitric acid. As the clouds become saturated, they release the moisture in the form of rain, snow, or fog. The Adirondack region receives some of the most acidic precipitation in the United States.Hluchy holds doctoral and master of science degrees from Dartmouth College and a bachelor of arts degree in geology from Colgate University.She is a member of the Clay Minerals Society, the Mineralogical Society of America, the Geological Society of America, the Council on Undergraduate Research, and the National Association of Geology Teachers.