AU professor to use laser technology to study medieval artwork
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Dr. Donald Royce-Roll, professor of art history at the School of Art and Design at Alfred University, was recently awarded one of 10 Summer Research Grants as well as a Teagle Scholar Award for Sabbatical Enhancement for his proposal titled "Raman Laser and its Use for Medieval Pigment Identification."The field of pigment identification has not had much success, partly because of the fragility of medieval manuscripts and the unwillingness of libraries to allow the manuscripts to leave their premises, explained Royce-Roll. For several years, it has been possible to identify the pigments used in these manuscripts through use of electron-beam microprobes, x-ray diffraction spectometers, or scanning electron microscopes with x-ray fluorescence capabilities. But to use these techniques it is necessary to remove a piece of the pigment from the original work and transport it to the lab for analysis.With the advent of the Raman Laser, pigments can now be identified without removing a piece of the pigment or destroying the manuscript. Until recently, however, these lasers have been so large that it was still necessary to take the books out of the libraries. Because the manuscripts are so delicate libraries did not want to allow them to travel. Now, with NASA technology, a smaller and portable version of the Raman Laser is available and will be able to finally bring the laboratory into the libraries, canceling the need to remove the manuscripts from their protective environment.Because this technology is so new, very few people have the experience, or knowledge, to use it properly. With Alfred University's financial backing Dr. Royce-Roll will spend this summer receiving the proper training needed to be able to use the portable Raman Laser once it has been completed in the spring of 2003. Dr. Royce-Roll will also be traveling to Yale University in New Haven, CT, as the curator and catalogue author of the exhibit "Coloribus" in the Beinecke Library.
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