IBBR at Maryland Day!

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Sunshine, blue skies, and nary a cloud made for a beautiful day as UMCP welcomed thousands of visitors for its 20th anniversary of Maryland Day. IBBR participated in the event for the first time with two table displays.

The first featured a protein matching game based on protein structures solved at the Institute. Visitors tried their skill at matching up six 3D printed protein models with onscreen images of the same proteins shown on iPads. The custom, web-based game was designed by Christian Presley, IT Director, IBBR, and Zachary Titus, a graduate student working at the IBBR IT support desk, using PyMol and Chimera, two software programs for interactive visualization of molecular structures. Geared toward children, the game encouraged the user to use the iPad touchscreen capability to rotate or zoom in and out on the image. With each correct match, a popup box provided information about the protein and how it relates to research being done at IBBR. For example, "5JQ3 is a protein molecule that resides on the outside surface of the Ebola virus. This protein enables Ebola to enter and infect human cells. At IBBR, we are designing vaccines that induce the human immune system to attack this protein and thereby prevent Ebola virus infection."

The second display was organized by Dr. Shunyuan Xiao, Principal Investigator, IBBR, and Professor, UMCP Department of Plant Sciences and Landscape Architecture, and his graduate students. Using posters, plant examples, and a step-by-step presentation, the researchers shared information about genetically modified organisms (GMO's), genetic engineering, and their potential impact on global food shortages. The Xiao team explained that genetic engineering could be likened to "molecular scissors", allowing scientists to cut and tweak a plant's DNA without introducing foreign DNA into the plant. Two of the ways this can be used are to make increase a plant's drought tolerance and to make it more disease resistant. Visitors were invited to take a 30-second, four-question quiz to test their knowledge about GMO's. For completing the quiz, playing the protein matching game, or talking with one of the IBBR scientists about research being done at the Institute, visitors received an IBBR Frisbee.