



ABI faculty attend, present at World Congress on In Vitro Biology

July 2, 2008 -- Seven members of the Arkansas Biosciences Institute faculty at Arkansas State University recently attended and participated in the World Congress on In Vitro Biology held Saturday-Wednesday, June 14-18, in Tucson, Arizona. This international congress, held every four years, focuses on issues pertinent to plant and animal research.

ASU participants included Dr. Greg C. Phillips, dean of the Colleges of Agriculture, Engineering, and Sciences and Mathematics; Dr. Pam Weathers, senior professor, metabolic engineering; Dr. Brett Savary, associate professor, agriculture; Dr. Argelia Lorence, assistant professor, chemistry; Dr. Fabricio Medina-Bolívar, assistant professor, biology; Dr. Chunzhao Liu, assistant professor, bioengineering; and Dr. Ganapathy Sivakumar, assistant professor, bioengineering.

Dr. Greg C. Phillips presented a session, "Interview Basics: Academia vs. Industry," at the conference, and also participated in a related Student Education session followed by mock interviews with attending undergraduate and graduate students. He currently serves on the Society for In Vitro Biology publications committee, and attended editorial meetings for the society's sponsored scientific journal, *In Vitro Cellular and Developmental Biology – Plant*, of which he is the outgoing editor-in-chief. Phillips will be involved in special editorial projects during the upcoming year in his role as editor-in-chief emeritus.

Dr. Pam Weathers presented both talks and posters on "Murine Interleukin 12 Production in Tobacco Hairy Roots in 3 Reactor Systems," and "Artemisinin Production from *Artemisia annua* Shoot Cultures." Weathers was also the session organizer and co-convenor for the plenary session "Large-Scale Cell- and Tissue-based Production of Biopharmaceuticals and Secondary Metabolites." At this session, Dr. Chunzhao Liu, presented a talk, "Novel Plant Reactors for Pharmaceutical Production," and Dr. Ganapathy Sivakumar presented a talk and poster, "Air Lift Balloon-Type Bioreactor: Platform for Commercial Production of Plant-Based Small Molecules and Tissues," co-authored by Dr. Maureen Dolan, Jose Condori, Selester Bennett, Loretta Bacchetta, and Dr. Fabricio Medina-Bolívar. Dr. Weathers also serves on the Board of Directors for the Society for In Vitro Biology (SIVB), and as chair of the Public Policy committee and chair of the Student Awards committee for the SIVB.

Dr. Fabricio Medina-Bolívar chaired the session, "New Strategies for the Production of Specialized Metabolites," which included speakers from the U.S., Mexico, and Zambia. Dr. Medina-Bolívar was also an invitational speaker at the session, "Biodiversity for Improving Human Health," with a talk and poster titled "Production and Neuroprotective Properties of Natural Resveratrol Analogs from Hairy Root Cultures," co-authored by Dr. Malathi Srivatsan, Jose Condori, Dr. Ganapathy Sivakumar, Dr. Mahadevappa P. Badanavalu, and Dr. Maureen Dolan. Dr. Medina-Bolívar's conference presentation, "Production of Stilbenoides by Hairy Root Cultures," is featured in the June 2008 issue of the journal *Agricell Report*. Presentations made by Dr. Medina-Bolívar and Dr. Sivakumar focused on the application

of plant-based hairy root technology for the production and discovery of natural compounds with applications in human health.

Dr. Brett Savary presented an interactive poster, “Growth patterns, secreted protein profiles, and EST transcripts from sugar beet (*Beta vulgaris*, L.) hairy root cultures,” co-authored by Dr. Prasanna Vasu and Dr. Daya Anandan of ABI and Dr. Ann Smigocki and Dr. Alberto Nunez of the United States Department of Agriculture Agricultural Research Service.

Dr. Argelia Lorence spoke at the Plant Symposium, “New Strategies for Production of Specialized Metabolites,” with a presentation, “Engineering Ascorbate for Enhanced Growth, Nutritional Content and Stress Tolerance in Crops.” Lorence also chaired the Plant Symposium, “Biodiversity for Improving Human Health,” with responsibilities that included session design, inviting of and gathering funds for appropriate speakers, and logistics. Lorence initiated an umbrella agreement, “Memorandum of Agreement and Understanding,” between Universidad Federal de Santa Catarina, Florianopolis, Brazil and Arkansas State University, allowing a research collaboration opportunity between the faculties at both institutions.

Much of the participants’ research was funded by the Arkansas EPSCoR Center for Plant-Powered Production (EPSCoR P3 Center) at ASU. The EPSCoR P3 Center is a research partnership between ASU, the University of Arkansas, Fayetteville, and the University of Arkansas, Little Rock. Principle investigators are ASU’s Dr. Carole Cramer, executive director, ABI; UA Fayetteville’s Dr. Ken Korth; and UALR’s Dr. Steve Grace. The EPSCoR P3 Center offers cross-disciplinary opportunities to engage with cutting-edge advances in plant-based bioproduction technology. The EPSCoR P3 Center has ongoing openings for graduate students, postdoctoral students, visiting scientists and faculty, and as well as welcoming research and product development collaborations. The EPSCoR P3 Center focuses on enhancing research infrastructure and cross-disciplinary, multi-institutional collaboration, linking research competitiveness with outreach and entrepreneurship to ensure knowledge-based economic development.

For more information on the EPSCoR P3 Center at ASU, contact Dr. Carole Cramer, director, EPSCoR P3 Center, Emily Devereux, program coordinator, at (870) 680-4344, or e-mail edevereux@astate.edu. For more information on ABI, contact Dr. Carole Cramer, executive director, (870) 972-2025, e-mail ccramer@astate.edu, or visit <http://abi.astate.edu/>. For more information on Arkansas EPSCoR, visit Arkansas Science and Technology Authority (ASTA) at <http://www.arkansasscienceandtechnology.org/epscor1/index.html>.