Ocean Springs native Maj. Gen. (R) James O. Poss has joined Mississippi State University as director of strategic initiatives in the High Performance Computing Collaboratory.

“We are pleased to have General Poss on the Mississippi State team,” said David Shaw, MSU’s vice president for research and economic development.

“His experience and expertise in a wide range of disciplines, including unmanned aerial systems and cybersecurity, will help us deepen our capacity, as well as sharpen our focus, in a number of high-priority research areas that are increasingly important to our state and the nation,” he added.

Poss is responsible for helping to identify strategic initiatives and opportunities for the university and to assist with understanding customer priorities and needs that are aligned with MSU’s capabilities in research, education and outreach programs that are best positioned to meet those needs.

"Mississippi State has some amazing programs that are of great interest to both the Department of Defense and intelligence community," Poss said.

Among significant research assets, he cited the university's National Security Agency-certified cyber defense program, a National Geospatial Agency-certified remote sensing program and one of the few unmanned aerial vehicle (UAV) labs in the country.

"MSU is uniquely suited to provide research in cutting edge networked warfare and UAVs. I can see MSU leading the way to find peaceful applications for this technology," he explained.

The fifth-generation Mississippian has had a distinguished career of service, most-recently the Assistant Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, Headquarters U.S. Air Force, Washington, D.C., and was the senior career intelligence officer in the Air Force. He was responsible to the Secretary and Chief of Staff of the Air Force for policy formulation, planning, evaluation, oversight and leadership of Air Force ISR capabilities.

Poss' Air Force and intelligence community background is a very strong match to opportunities available to MSU, Shaw said, noting that the general has been part of the USAF unmanned aerial vehicle program since its inception.

Additionally, he has extensive experience in remote sensing, and is one of a handful of intelligence officers to have used DOD remote sensing to support Mississippi, both after Hurricane Katrina and the Deepwater Horizon oil spill in the Gulf of Mexico.

Poss received his commission through the Reserve Officers Training Corps program at the University of Southern Mississippi. He served in Desert Storm with the U.S. VII Corps RC-12 Guardrail Battalion in Saudi Arabia, and was director of intelligence for Central Command Air Forces deployed to Southwest Asia at the beginning of Operation Enduring Freedom. The general commanded the 488th Intelligence Squadron, Royal Air Force Mildenhall, England, flying RC-135s in combat during the Kosovo Air War. He has also commanded the 609th Air Intelligence Group at Shaw AFB, S.C., and 70th Intelligence Wing at Fort George G. Meade, Md.

The general has previously served as the director of intelligence at both Headquarters U.S. Air Forces in Europe and Air Combat Command. Prior to his current assignment, he was Director, ISR Strategy, Integration and Doctrine, Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance, Headquarters U.S. Air Force.

"Most of my experience has been focused on cryptologic operations, and I have spent much of my career working for or with the National Security Agency," Poss said.

He believes that NSA will provide Mississippi State many additional opportunities in cyber research and education.

This excerpt is from an article written by Jim Laird, Mississippi State University Relations News Bureau. View the full article.
CAVS, Severstal North America form Partnership

The Center for Advanced Vehicular Systems (CAVS) and Severstal North America recently launched the Steel Research Center (SRC) to establish and operate a world-class steelmaking technology hub. The partnership is expected to help grow the region's high-tech manufacturing economy and foster national and international participation in ferrous alloy education and development.

"We plan to deploy enhanced capabilities in multi-scale modeling and characterization developed at Mississippi State, and utilize steelmaking expertise from industrial partners, like SNA, to guide current and future R&D activities at the new center," said Roger King, CAVS director and Giles Distinguished Professor of Electrical and Computer Engineering.

The 4,000-square-foot SRC is located in the Edwards Reactor Building on Herbert Street on the Mississippi State campus. SRC will design and implement experimental apparatus that represent the processing paths of steel-related material manufacturing. Once the experimental framework is established, simulation tools will be proposed and design ideas validated with the experimental equipment.

CCS Researcher named AAAS Fellow

Dr. Mark A. Novotny, with the Center for Computational Sciences, was recently honored as a Fellow of the American Association for the Advancement of Science (AAAS). Novotny received the honor awarded by his peers in recognition of scientifically or socially distinguished efforts to advance science or its applications.

Novotny has headed the physics and astronomy department since 2001. From 2002-2005, he also directed the High Performance Computing Collaboratory Center for Computational Sciences. Last year, Novotny was among 40 foreign physicists, mathematicians and biologists receiving travel grants to speak at academic institutions in Russia.

The AAAS, based in Washington, DC, is the world's largest general scientific society. The organization publishes the prestigious journal *Science*, as well as *Science Translational Medicine* and *Science Signaling*. Founded in 1848, the AAAS serves 10 million individuals around the world.
GEO Project saves Mississippi $$ and Effort

The Geospatial Education and Outreach Project (GEO Project), an advanced database training project is saving the state millions of dollars, improving skills and making jobs easier.

Since the GEO Project’s inception in 2006, over 2,600 people from 60 Mississippi counties have attended about 260 workshops. The courses combine geographic information with other features in an area, such as data on utilities, property lines and roads.

Scott Samson, professor with the Extension Service and the Geosystems Research Institute at MSU, developed the GEO Project. Having in-state training saves Mississippi about $5.5 million compared to the cost if workshop participants had to go out of state to take the same training. Samson said the rescue and recovery efforts associated with Hurricane Katrina introduced Mississippi to the widespread use of geographic information systems, or GIS.

The GEO Project leaders offer several workshops statewide each year at various locations. Two portable computer labs permit the delivery of concurrent workshops. ESRI Inc., the largest GIS software vendor in the world, has identified GEO Project as the largest outreach effort of its kind in the United States.

IGBB Key in Nature Publication Describing Cotton Genomes

Dr. Daniel G. Peterson, director of Mississippi State University’s Institute for Genomics, Biocomputing & Biotechnology (IGBB), has helped lead an international team that has described the first “gold-standard” genome sequence for cotton.

Published in the Dec. 20, 2012 issue of *Nature*, one of the most prestigious scientific journals, this research is the culmination of a 20-plus year effort in the analysis of cotton genes, chromosomes and their evolution, according to Peterson.

The consortium includes representatives from most of the world’s major cotton producing countries, and is led by Regents Professor Andrew Paterson of the University of Georgia.

The effort gained momentum in 2007 when a proposal from Paterson, Peterson, and others was approved by the United States Department of Energy Joint Genome Institute Community Sequencing Program.

A “gold-standard” sequence was produced for *Gossypium raimondii*, chosen by the worldwide cotton community to be the first of 50 cotton species to be sequenced as the best model for the New World progenitor of commercially important Upland and Pima cottons.
7th Annual NGI Conference Date Announced

The 7th Annual NGI Conference will be held May 14-15, 2013 at Stennis Space Center, MS. The theme for this year's conference will be "Integrating Research and Restoration" and will highlight the work of NGI-affiliated researchers and students.

The format will be similar to last year's conference in that one day will be devoted to technical presentations and posters, with the second day for strategic discussion with the NGI Fellows and Advisory Council.

There is no cost for the conference, but on-line registration will be required.

Please visit 2013 Conference for more information.

The High Performance Computing Collaboratory at Mississippi State University is comprised of 6 research centers:
- CAVS - Center for Advanced Vehicular Systems
- CBI - Center for Battlefield Innovation
- CCS - Center for Computational Sciences
- GRI - Geosystems Research Institute
- IGBB - Institute for Genomics, Biocomputing and Biotechnology
- NGI - Northern Gulf Institute

High performance computing (HPC) is the use of advanced computational techniques with large-scale computational, storage, networking, and/or visualization resources to solve problems that are too complex for standard computing solutions. Today, HPC systems typically perform in excess of one trillion floating point operations per second, or one teraFLOPS.