Testimony before the Commerce, Justice and Science Appropriations Subcommittee
John Gregory
Alabama Space Grant Director
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Mr. Chairman and distinguished Members of the Subcommittee, thank you for allowing me to provide testimony on behalf of the National Space Grant Alliance (NSGA) as you consider funding priorities relevant to the FY2010 Commerce, Justice, Science and Related Agencies Appropriations Bill. My name is John Gregory. I am the Director of NASA's National Space Grant College and Fellowship Program in the State of Alabama. I am also Professor of Chemistry and Materials Science at the University of Alabama in Huntsville. I am one of 52 State Space Grant Directors in the US and have been a NASA- and NSF-funded researcher over several decades.

Today, I speak to you in support of NASA's National Space Grant College and Fellowship Program (Space Grant).national network. In an effort to bring greater national coherence to our advocacy efforts, the 52 Space Grant Directors formed the National Space Grant Alliance (NSGA). The NSGA is a non-profit national organization that is working to: (a) galvanize support and enthusiasm for aerospace education and research; (b) ensure that Space Grant has an appropriate level of financial and programmatic support to meet the needs of the students and teachers it serves ; and (c) align Space Grant's education, workforce development and research activities in the individual States with NASA's national "commitment to excellence in science, technology, engineering and mathematics (STEM)…" Comprised of 52 Space Grant consortia including 867 affiliates – located in every state of the country, the District of Columbia, and the Commonwealth of Puerto Rico – the NSGA requests that you appropriate $44.8 million for Space Grant with the following language: "The Committee has included $44.8 million for the National Space Grant College and Fellowship Program to fund 42 states or jurisdictions at $900,000 each and 10 states or jurisdictions at $700,000 each." We believe that funding the Space Grant program at $44.8 million and including the requested language will (1) improve Space Grant's ability to increase the number of students participating in SG and the variety of the activities carried out to enhance entry into and retention in STEM career pathways relevant to achieving NASA's mission, (2) strengthen the nation's and NASA's future S&T workforce; and (3) engage the American people's support of NASA's mission through partnerships and alliances.

As I was preparing to write this testimony, I saw that the Commerce, Justice, and Science Appropriations Subcommittee has had many hearings on STEM education issues over the last month. I was struck with the statement that the Chairman made "that the US graduate education in science and engineering is highly respected throughout the world and there are other countries working to emulate it. However, this is not the case with K-12 science education….. We have all seen the reports about the poor average

performance of US student on comparative tests of science learning…engineering graduate enrollment is now overwhelming drawn from abroad, and while that is good to the extent that it draws bright, creative minds to our shore and economy, it begs the question as where is the stream of US students to pursue graduate engineering degrees"

As you know, scientists and engineers comprise only 4 percent of the U.S. workforce; however, they have created jobs for a large percentage of the American workforce through new knowledge production and innovation. In testimony presented in March from the update of the National Academies' "Gathering Storm" committee they stated that in their view the U.S. is rapidly falling behind other nations in key STEM areas.

One proven program that directly and effectively addresses these critical issues is Space Grant. Space Grant is a unique national program focused on STEM education, workforce development and research inspired by the mission and work of NASA. University-led Space Grant consortia include other colleges and schools, state, industry, non-profit and sometimes federal partners that share an interest in aerospace-relevant STEM education, workforce development and research.

The Space Grant Consortia work as a national network at the individual (serving state educational, workforce, and economic needs), regional (focusing on shared objectives with regional partners), and national (implementing nationwide directives and programs) levels. Space Grant programs are active and effective catalysts in each state, highly leveraging NASA funding with more than a dollar-for-dollar match from other local resources. This level of cost-sharing is clear evidence from our stake-holders that we are addressing their concerns at the State and local levels.

Space Grant's key program elements include college-level fellowships and scholarships, often with a research component; interdisciplinary student hands-on mission programs and design projects; internships; higher education programs such as faculty and curriculum development initiatives; university-based NASA-related research initiatives; in-service and pre-service teacher-training programs for precollege teachers; K-12 student programs; and public outreach programs that inform and educate.

Space Grant engages and inspires a new generation of Americans who dream of life beyond the confines of Earth. We educate and prepare the next generation of US aerospace scientists and engineers with the goal of maintaining the US leadership in space. Space Grant provides support for a strong national program of aeronautics research and technology that contributes to the vitality of the U.S. aeronautics industry, the efficiency of the U.S. air transportation system, and the economic well-being and quality of life for citizens.

The Space Grant network delivers positive outcomes for a relatively small investment. At no other time in the history of this country have we had a greater need for a coordinated, effective, national effort to encourage and train students for careers in science. Prior Congressional enhancements to the program have paid considerable dividends. Increased investment in the program is timely.

Let me close by showing some national statistics from the Space Grant program, that show the scope and reach of the program. In 2007, Space Grant:

- Awarded more than 1,000 internships, fellowships and research opportunities for undergraduates, graduate students and faculty in STEM disciplines.

- Awarded 270 competitive scholarships, internships, fellowships, and research opportunities to underrepresented and underserved students, teachers, and faculty in STEM disciplines.

- Provided 95 grants to enhance the capability of 50 underrepresented and underserved colleges and universities to compete for and conduct basic or applied NASA-related research.

- Assisted high-potential young faculty to become NASA Principal Investigators and effective partners with NASA centers and contractors.

- Trained 17,220 teachers through Space Grant programs.

- Reached ,through Space Grant's 288 general public programs, 196,813 participants from the general public were directly impacted.

- Tracked student participants-- In 2007, 40% of the students tracked were employed in STEM fields (NASA, industry, and academia) and 42% were pursuing advanced STEM degrees.

- Involved over 5,700 undergraduate and graduate students in Space Grant programs, nationally.

- Engaged 44 consortia in student-led flight projects (28 of which involve NASA centers) with more than 200 student-led flight projects involving 180+ institutions of higher education and nearly 90 industry partners which engaged nearly 2,200 college students, 275 faculty, and 115+ precollege educators.

Thank you for the opportunity to testify.