Virginia Space Grant Consortium – Strategic Plan 2020-2024

Mission Statement: The Virginia Space Grant Consortium (VSGC) acts as an umbrella organization, coordinating and developing quality aerospace-related, high technology, educational, workforce development and research efforts throughout the Commonwealth. VSGC's programs will generally reflect NASA's mission and research interests.

Vision: To serve as a catalyst for, and partner in, the enhancement of aerospace-related and high technology education, workforce development and research in the Commonwealth to foster enhanced quality of life for Virginia through workforce development and increased public science literacy.

Values: The Virginia Space Grant Consortium is committed to promoting and achieving excellence in education, workforce development and research in science, mathematics, technology and engineering at all levels in Virginia. The Consortium also seeks to encourage student and faculty diversity in these fields and to foster scientifically and technologically literate citizens.

Outcome One: Contribute to the development of the science, technology, engineering and mathematics (STEM) workforce in disciplines needed to achieve NASA's strategic goals (Employ and Educate)

Goal 1 – Conduct quality scholarship and fellowship programs including research awards for undergraduate and graduate students, community college STEM scholarships and STEM Bridge scholarships.

- **1.A** Each academic year, award students in all four categories with scholarships and fellowships. Students will be competitively selected by review panels consisting of representatives from member institutions.
- **1.B** Award at least the minimum funding amount required by NASA (currently $182,000) in scholarships and fellowships to at least 60 students each academic year.
- **1.C** Each academic year, provide a percentage of awards to underrepresented minority and female students that is consistent with the diversity target as established by NASA (currently 29.8% [increased from 24.6%] for awards to minority students and 40% for awards to female students).
- **1.D** At least 90% of students receiving research awards will attend and present at the annual VSGC Student Research Conference.
- **1.E** Longitudinally track 100% of all students receiving significant awards to identify their next step in academia or the workforce.
- **1.F** At least 60% of students receiving significant awards will by employed by NASA, an aerospace contractor, higher education or other educational institutions.
- **1.G** At least 45% of undergraduate students receiving significant support from VSGC will move on to advanced education in NASA-related disciplines in their next step.

Goal 2 – Offer quality higher education programs that align with NASA Mission Directorates including internship programs in partnership with our member institutions and partners.

- **2.A** Each academic year, provide paid internships for at least one [down from four students] student at a NASA Center.
- **2.B** As funding permits, continue to effectively manage the Commonwealth STEM Industry Internship program and place at least 50 students in paid internships with Virginia companies and organizations.
- **2.C** Conduct at least one annual higher education project in partnership with Virginia's community colleges.
- **2.D** Each year, conduct at least two higher education projects in partnership with VSGC member institutions.

Goal 3 – Promote diversity in all programs and activities by encouraging participation by underrepresented minority and female students and faculty.

- **3.A** Each year, conduct at least one outreach program or event in partnership with Hampton University (HBCU) to promote programs and opportunities to students and faculty.
- **3.B** Each year, conduct at least one outreach event in partnership with a non-member minority institution to promote programs and opportunities to students and faculty.
- **3.C** Each academic year, provide a percentage of student awards to underrepresented minority and female students that meets or exceeds the diversity target as established by NASA (currently 29.8% [increased from 24.6%] to minority students and 45% for awards to female students).
- **3.D** Provide at least one STEM program each year for special needs faculty or students.

Goal 4 – Undertake programs that foster research capabilities at our member institutions and serve as a catalyst for linking university researchers to NASA and other opportunities.

- **4.A** Conduct a New Investigator award program each year targeting tenure track faculty who are within the first five years of their academic career. Funding permitting, at least four awards will be given annually, and the research will have NASA relevance.
- **4.B** Disseminate at least 20 research opportunity announcements to statewide networks each year.
- **4.C** Facilitate at least five meetings with university researchers and NASA personnel as appropriate, resulting in at least two collaborative proposals being submitted.
- **4.D** Support at least two experiential student research, mission and design programs each year.

Outcome Two: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty (Educate and Engage)

Goal 5 – Provide quality precollege educational opportunities including professional development for precollege and pre-service educators and student-focused programs for students throughout the precollege pipeline.

- **5.A** VSGC will provide professional development in STEM and using NASA resources to at least 40 teachers each year.
- **5.B** VSGC will reach over 300 students by conducting selected student-focused programs and activities promoting participation in STEM and related careers.
- **5.C** At least 50% of all precollege students participating in VSGC-sponsored programs will express an interest in STEM careers.

Outcome Three: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission (Engage and Inspire)

Goal 6 – Conduct Informal Science Education programs in partnership with informal education members and partners.

- **6.A** Sponsor at least one program with the Virginia Air and Space Center and/or the Science Museum of Virginia each year.
- **6.B** Consider other appropriate informal science education opportunities as funding and partnerships permit with the goal of sponsoring at least one other activity per year.

Goal 7 – Serve as an effective steward of Consortium resources and a strong partner for STEM programs by effectively leveraging NASA Space Grant resources.

- **7.A** NASA Space Grant funding will be leveraged by at least 3 dollars to 1 NASA Space Grant dollar as evidenced in the Consortium year-end Matching/Contributed Funding Report.
- **7.B** Network and partner with other Space Grants and Space Grant organizations as appropriate.
- **7.C** Network with NASA Headquarters and NASA Centers for program implementation. At least two such collaborations will be undertaken each year.
- **7.D** Build and sustain effective strategic partnerships including relationships with state and federal legislators and officials. Demonstrated by evidence of state and federal support for VSGC programs and documented attendance by these individuals at select activities and events.
- **7.E** Each year, partner with at least 20 non-member organizations to conduct programs.

Goal 8 – Support national, regional and crosscutting initiatives that support NASA and Consortium goals as external funding permits.

- **8.A** Continue to manage the ACRP University Design Competition for Addressing Airport Needs and the ACRP Graduate Research Awards as funding permits.
- **8.B** Support other initiatives as possible.