



The Center for Research in SEAD Education (SEAD) serves as the university-level mechanism to strategically propagate expertise in research and evaluation related to formal and informal P-12 education in science, engineering, arts, and design (SEAD).



## MISSION

The CRSE will **INSPIRE, IMPACT and CONNECT** our region, the Commonwealth, and the nation. Our mission is to advance high quality SEAD teaching and learning opportunities in P-12 contexts for all and become a leader in STEM workforce development from early childhood through professional practice. With teaching and learning at the center of our work, our strategy is to engage in a cycle of research, practice, and evaluation that yields actionable data and support for all stakeholders. Through a close alliance with the Office for the Vice President for Research and Innovation, the Office of Sponsored Programs, and the university's College Access Collaborative, our aim is to create an intentional and strategic approach to the university's land-grant mission to ensure access and a higher quality of life for our communities, especially those in our P-12 schools. The results of our work will provide information, faculty support, and strategy to the university's larger efforts in strategic growth areas, destination area foci, and building the VT-shaped student.



## GOALS

- Serve as a center for research and evaluation support for Virginia Tech and its P-12 SEAD/STEM-related projects and programs.
- Broker partnerships among our stakeholder groups to ensure that new and granted-funded projects and programs have sustained and broader impact.
- Serve as a portal to bring visibility to STEM P-12 learning experiences, innovations, and opportunities across the region and Commonwealth.
- Provide STEM/SEAD leadership through communication and convening of key constituencies, and advocacy for STEM policies, practices, programs, and people.
- Conduct programs such as the Virginia Tech Science Festival, ICAT Day, K2C, and the STEM Summit to engage the public, enhance student learning and STEM/SEAD career awareness, and provide professional development for educators across all subject areas.

### SCIENCE MUSEUM OF WESTERN VIRGINIA



Through a formal partnership with the Science Museum of Western Virginia, Virginia Tech is uniquely positioned to explore the *"pathway of university research to public engagement at the museum."* Virginia Tech and the SMWV co-fund a full time research position designed to create the bridge between research, exhibition, and education. Through this partnership, the CRSE engages in joint development of the Virginia Tech Science Festival, development of long-term interactive exhibits designed by Virginia Tech faculty and staff, hosts workshops and summer camps for faculty to explore broader impacts of their work, and the offering of museum internships for Virginia Tech students.

### COLLEGE ACCESS COLLABORATIVE



The Virginia Tech College Access Collaborative (CAC) *"aims to increase academic preparation, access and affordability for first-generation, low-income, underrepresented minorities, women and students from rural and inner-city communities."* The CRSE is committed to supporting this collaboration by serving as the broker between schools and university faculty and students, aiming to be more strategic about the placement of research opportunities within schools. The CRSE will work with the CAC to form partnerships with communities that historically have low high school attainment and low matriculation to post-secondary education. We will aid in the development of memorandums of agreement and helping to identify individual needs with each partner community. The CRSE will then communicate with the broader Virginia Tech Community about specific needs and opportunities for research.

### MONTGOMERY COUNTY PUBLIC SCHOOLS



Critical to the CRSE is the relationship that is formed and nurtured with Virginia's public schools. While there are countless events and programs through which to engage with public schools, it is critical to have a deeper knowledge of systemic issues. Over the past four years, ICAT has co-funded a teacher's position in the Montgomery County Public Schools. Initially, the individual serving in this position maintained a part-time teaching position in one of the county's high schools and served as a contributing member to ICAT's educational research team. For the past year, this position has been at the district level, conducting a district-wide inventory of STEM initiatives, partnerships, and program and working to bring valuable opportunities to MCPS students to help increase college application, admission, and attendance. This liaison position also helps to coordinate VT research activities in the school division to ensure an equitable distribution of activity and an alignment between the nature and focus of the activity and the school's needs.

### NETWORK OF STEM EDUCATION CENTERS



The CRSE remains involved on a national level through a number of organizations, one of which is hosted through the Association for Public and Land-grant Universities (APLU). The Network of STEM Education Centers is *"an organization of campus-based centers and offices that will serve as a catalyst for broader national educational transformation in STEM, including research on teaching and learning STEM disciplines at all levels."* CRSE board members regularly contribute to the dialogue through this network and participate in the annual meetings and workshops. The involvement in this network brings national visibility to the CRSE and Virginia Tech as a leader in the transformation of STEM education.