The Virginia Tech Carilion Partnership
A Brief History of the Partnership

2007 - Virginia Tech, Carilion Clinic, and the commonwealth announced a public-private partnership: Virginia Tech Carilion School of Medicine and Research Institute will address physician shortage and grow biomedical research enterprise

2008 - Commonwealth approved $59M capital project
2010 - Charter medical school class enrolled
2014 - Charter medical school class graduated
2014 - Charter PhD class enrolled in PhD in Translational Biology, Medicine and Health

2016 - General Assembly encouraged partnership and potential for Virginia Tech to acquire the Virginia Tech Carilion School of Medicine (VTCSOM)
2016 - Virginia Tech Board of Visitors approved intent to acquire and integrate VTCSOM

2016 - Commonwealth approved $46.7 million for VTCRI expansion
2017 - VTCSOM included in long-term enrollment projections
2017 - Virginia Tech Carilion Research Institute (VTCRI) surpassed $100M in total research funding awarded

2017 - $90M VTCRI expansion project launched
Clinical Enterprise

Clinical departments of emergency medicine, family & community medicine, internal medicine, obstetrics/gynecology, orthopedic surgery, pediatrics, psychiatry and behavioral medicine, radiology, and surgery
Measuring Our Impact

VTCRI Extramural Research Grant Funding

- FY11: $3M
- FY12: $77M

VTCSOM FY11-FY17

- 168 new physicians
- 75 full-time employees
- 700 affiliated physicians & medical specialists
- $15M annual budget

Combined VTCRI & VTCSOM Impact, FY11-FY17

- Expenditures: $342M
- Economic Impact: $756M

Future Impact, FY18-FY27

- 30+ additional Research/Clinical Teams
- $193M additional capital investment
- $300M additional grant expenditures
- $187M VTCSOM additional expenditures
- $1.5B additional economic impact

Combined VTCRI & VTCSOM Impact, FY11-FY27

- Expenditures: $1.02B
- Economic Impact: $2.25B

+ Direct impact on Roanoke Innovation Corridor through start-ups, industry/academic partners, and other VT colleges/units
The average NIH “hit rate” is 8-10%.

VTCRI’s hit rate is 25%.

22/25 investigators have active NIH funding.
9/10 asst. professors receive NIH funding.
Top Ten VTCRI Research Areas

- Addiction and substance abuse
- Health behaviors
- Brain tumors
- Breast cancer
- Sudden cardiac death
- Traumatic brain injury
- Neuropsychiatric disorders (autism, depression, PTSD)
- Neuro-rehabilitation in developmental disorders including cerebral palsy
- Wound healing and tissue repair/regeneration
- Immunology

Future Foci
- Neuroscience
- Infectious disease
- Cardiovascular Sciences
- Metabolism and Obesity
- Biomaterials-Body-Device Interfaces
Examples of Collaborative Research

- **Carilion** neurosurgeons and **VTCRI** researchers are developing personalized treatment for brain cancer.

- **Carilion** Emergency Medicine doctors are working with **VTCRI** researchers on ways to recognize which brain injuries will be serious.

- The **UVA - VTC** Neuroscience Research Collaboration is jointly funding $550k in grants to research teams focused on pressing problems in brain development and function.

- **VTCRI** researchers Sharon and Craig Ramey are working with the city of **Roanoke** to improve child development outcomes.

- Warren Bickel, a **VTCRI** behavioral health researcher, is collaborating with VCU psychiatry professors, **Inova Fairfax hospital**, and a **pharmaceutical company** to develop interventions to prevent opioid users from relapsing. The group received a $1 million grant from **Virginia Biosciences Health Research Corporation**.
Spinning Off Innovation

“\text{It takes an entrepreneurial strategy or a commercial partner within a supportive, innovative environment for the idea to reach the marketplace,}\”
VTCSOM Student Success

- 100% pass rate for United States Medical Licensing Exam Step 3
- 100% residency match for each graduating class
- 126 on-going research projects with 73 VTCSOM faculty mentors
- 49% of students working with VT faculty
- 250 research presentations, 61 publications
- 4,400 applications for the Class of 2021
Enhancing Our Partnership - What’s Next?

Development of an integrated Health Sciences & Technology Campus

Integration of the independent VTCSOM into Virginia Tech as 9th college, effective July 1, 2018

- Joint Integration Working Groups underway
- SACSCOC Accreditation (Substantive change prospectus March 18; Site visit Fall18/Spring19)
- LCME Accreditation (Governance change form submitted Nov 16; full submission July 18; Site visit Oct 18).

Benefits of Integration:
- Enhanced opportunity to recruit world-class physician, researcher and student talent to VTC through academic reputation of Virginia Tech
- Operational efficiencies of scale
- Enhancement of VTCSOM student experience by seamless integration with VT programs and services
Lessons Learned - So Far...

- A successful and sustainable public-private partnership requires alignment of vision that transcends leadership transitions.
- Trust and frequent communication are critical.
- VTCSOM is the keystone, and VTCRI attracts resources.
- Leveraging the full capabilities of a major university will be a differentiator for VTC and the HS&T campus.
- VTC engagement with Roanoke is defining a new route to the “public good” for higher education.