John T. Casteen III
House Higher Ed Subcommittee
Monday, January 28, 2008
8:30 a.m.
General Assembly Bldg.

- **The Commonwealth Research Initiative has enabled the U to increase research capacity by:**
  - **Recruiting distinguished scientists;**
  - **Developing research programs;**
  - **Supporting graduate students;**
  - **Obtaining key equipment.**

- **The Commonwealth's investment was $19.3M ($11.45M GF and $7.85M ETF). With this investment, the U generated $52.6M in external federal/private funds — ROI of 272%.**

<u>Distinguished Scientists</u>

- **Recruited five new distinguished senior scientists who have brought $40M in sponsored research from federal and industry sponsors.**

- **Their research covers broad spectrum:**
  - **Fiber optics in telephone systems;**
  - **Catalysis (used in catalytic exhaust converters and semiconductor chips);**
  - **Study of heart attack on molecular level, and clinical trials for medicines for heart disease;**
  - **Prevention and treatment of birth defects and cancer.**

- **Also recruited five mid-career and junior faculty in biology, env. sciences, psychology, and electrical engineering.**

- **These recruits have over $5M in pending and sponsored research so far.**

<u>Research Programs</u>

- **Priority programs focus on heart disease; cancer; medical imaging; muscle, bone, and tissue regeneration.**

Graduate Students

- **Provided $1.6M for graduate student support. Grad students generate new ideas and support research.**

Equipment

- **$2M for NMR machine (nuclear magnetic resonance). The only machine of its kind in Virginia.**

- **NMR machine visualizes tiny molecules such as proteins. U researchers have identified a protein that exists in 30% of leukemia patients.**

- **Using the NMR machine, they can begin to create drugs that fit like a lock and key around that protein to destroy cancer cells.**

Business Start-Ups

- **Investment from the Commonwealth can lead to business start-ups.**

- **Good example: two investigators, one in Biomedical Engineering and one in Cardiology, funded partially with state money applied for a Coulter grant (internal funds) and received $100,000.**

- **They produced new technology that allows Magnetic Resonance Imaging (MRI) to proceed so rapidly it "freezes the beating heart in an image."**

- **This faster MRI will replace 3 expensive and sometimes dangerous methods for investigating the heart — cardiac catheterization, nuclear imaging, and echocardiography — with a single, noninvasive test.**

- **They have 9 patents, and formed a small business that has already been bought by a large imaging company.**

Introduce Steve Rich

- **His research focuses on the genetic basis of diabetes, heart disease, asthma, and stroke.**

- **Leads new U.Va. Center for Public Health Genomics.**

- **Ranked as one of the top NIH investigators in total dollars awarded; brought over $35M in research awards to U.Va.**