VCU Overview

- Largest Urban Research University in Virginia*
- 225 degree and certificate programs (14 Schools/College)
- 22 graduate programs ranked in US News & World Report Top 50
- $271M/yr sponsored research funding**
- Over 31,000 students (20k FT)
- 19:1 student-faculty ratio
- 41.3% Male / 58.7% Female
- 50.2% Minority / 49.7% White
- Undergraduate research opportunities (UROP)
- Dean’s Undergraduate Research Initiative (Engineering)

* Carnegie Foundation: “Research University-Very High Research Activity” and “Community Engagement” Status category

** NSF Ranking: top 100 university in research expenditures: 81 in federal expenditures and 97 in total expenditures (FY15)
VCU Sponsored Program Awards by Source
FY 2016

FY 2016 Total Awards: $271,199,199

Federal, $144,117,992
  - NIH: $86.4M (59.96%)
  - Fed., Non-NIH: $57.7M (40.04%)

Other, $75,401,411

State, $25,582,244

Industry, $26,097,552
FY 2016 Total: $271,199,199

VCU Sponsored Program Awards: Unit-Level Analysis
FY 2016

- Medicine: $138,214,897
- Arts (includes VCUQ): $43,375,066
- Humanities & Sciences: $17,393,495
- Education: $24,729,628
- Engineering: $11,781,471
- Pharmacy: $8,751,237
- Dentistry: $3,029,015
- Allied Health Prof: $3,759,941
- Social Work: $754,750
- Nursing: $1,706,206
- Business: $132,147
- Other: $18,680,644
- Wilder School: $1,230,128
Abbrev | National Institute
--- | ---
NIDA | Drug Abuse
NHLBI | Heart, Lung, & Blood Inst.
NCI | National Cancer Institute
NIAAA | Alcohol Abuse & Alcoholism
NIDDK | Diabetes & Digestive & Kidney Dis.
NICHD | Child Health & Human Dev.
NIMH | Mental Health
NCATS | National Center For Advancing Translational Science
NIGMS | General Medical Sciences
NIAID | Allergy & Infectious Disease
NIDCR | Dental & Craniofacial Research
NINDES | Neurological Disorders & Stroke
NIMHD | Minority Health & Health Disparities
NIAMS | Arthritis & Musculoskeletal & Skin Disorders
NINR | Nursing Research
Other Inst. | Environmental Health Sciences; Aging; Deafness & Other Comm. Disorders; Eye Institute; National Library of Medicine; Biomedical Imaging & Bioengineering

**VCU Sponsored Program Awards: NIH Portfolio**
**FY 2016**

**FY 2016 Total: $271,199,199**

**FY 2016 NIH: $86,412,199**
NIH Supported Research in Neurosciences: Combined FY16 Funding from NIDA, NIAAA, NIMH and NINDS

<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>NUMBER OF AWARDS</th>
<th>FUNDING</th>
<th>Rank (out of 760 institutions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIRGINIA COMMONWEALTH UNIVERSITY</td>
<td>79</td>
<td>$26,992,876</td>
<td>32</td>
</tr>
<tr>
<td>UNIVERSITY OF VIRGINIA</td>
<td>40</td>
<td>$20,217,335</td>
<td>50</td>
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<tr>
<td>VIRGINIA TECH</td>
<td>24</td>
<td>$8,850,260</td>
<td>105</td>
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<td>GEORGE MASON UNIVERSITY</td>
<td>15</td>
<td>$3,413,082</td>
<td>180</td>
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<tr>
<td>EASTERN VIRGINIA MEDICAL SCHOOL</td>
<td>4</td>
<td>$1,318,699</td>
<td>272</td>
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Source: NIH RePORTER
https://projectreporter.nih.gov/reporter.cfm
VCU Center for Rehabilitation Sciences and Engineering & Chronic Effects of Neurotrauma Consortium

Dr. David Cifu: Understanding mild TBI and concussion

Dr. Randall Merchant: searching for new diagnostics for TBI and concussion

VCU Massey Cancer Center

Dr. Leland Rogers: Low dose Radiation therapy to clear amyloid plaques
VCU Parkinson’s and Movement Disorder Center and the Department of Biomedical Engineering

Drs. Paul Wetzel and Mark Baron: Developed an eye tracking device for diagnosing more than 20 neurological diseases

Dr. Jack Hettema et al.: Identified genetic determinants that could increase the risk for five primary anxiety disorders

Virginia Institute for Psychiatric and Behavioral Genetics
VCU NIGMS/NIH-Funded Research Training Programs for Students Underrepresented in the Biomedical Sciences

<table>
<thead>
<tr>
<th>Grant # / PI</th>
<th>Title</th>
<th>Dates</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T32GM092447</td>
<td>VCU Minority Access to Research Careers Program (MARC)</td>
<td>2010-2016</td>
<td>VCU undergraduate honors students</td>
</tr>
<tr>
<td>J. Sharpe (PI)</td>
<td>S. Golding (co-I)</td>
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<tr>
<td>R25GM090084</td>
<td>VCU Initiative for Maximizing Student Diversity (IMSD)</td>
<td>2010-2018</td>
<td>VCU undergraduates and PhD students</td>
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<tr>
<td>L. De Felice (PI)</td>
<td>S. Golding (co-I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R25GM089614</td>
<td>VCU Postbaccalaureate Research Experience Program (PREP)</td>
<td>2010-2019</td>
<td>Recent college graduates</td>
</tr>
<tr>
<td>J. Lloyd (PI)</td>
<td>G. Buck (co-I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K12GM93817</td>
<td>VCU Institutional Research Career Development Award (IRACDA)</td>
<td>2010-2016</td>
<td>Research and teaching training for postdoctoral fellows. Research at VCU; Teaching at Virginia Union University or Virginia State University</td>
</tr>
<tr>
<td>P. Fisher (PI)</td>
<td>J. Lloyd (coPI)</td>
<td></td>
<td></td>
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</tbody>
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University Programs

• Allied Health Professions
• Arts
• Business
• da Vinci Center
• Dentistry
• Education
• Engineering
• Government and Public Affairs

• Humanities and Sciences
• Life Sciences
• Medicine
• Nursing
• Pharmacy
• Social Work
• World Studies

Required: Humanities, Mathematics, English (including composition), Sciences (biological or physical), Social science
VCU School of Engineering

- Founded in 1996
- Six Undergraduate Majors
- 1700 Undergrads
- 300 Graduate

Our graduate degree programs:

- M.S. and Ph.D. in Biomedical Engineering
- M.S. in Computer and Information Systems Security
- M.S. in Computer Science
- M.S. and Ph.D. in Mechanical and Nuclear Engineering
- M.S. and Ph.D. in Engineering with tracks in:
  - Chemical and life science engineering
  - Computer science (Ph.D. only)
  - Electrical and computer engineering
300,000 square feet space
- West Hall, East Hall
- Wright Virginia Microelectronics Center
- Institute of Engineering & Medicine
- BioTech1, BioTech8
Institute for Engineering and Medicine
VCU Nano Characterization facility
Biomedical
- Tissue and Cellular Engineering
- Nanomedicine
- Pulmonary Mechanobiology
- Biomedical imaging systems
- Orthopaedic biomechanics
- Biomaterials
- Human-computer interfaces
- Cardiovascular devices
- Rehabilitation engineering

Chemical and Life Science
- Pharmaceutical Engineering
- Bio-molecular Engineering
- Systems Biology Engineering
- Surface Science & Polymers
- Nanosciences & Biomaterials
- Functional Polymer Surfaces
- Supercritical Fluids Laboratory
- Stem Cell Engineering

Computer Science
- Bioinspired / cognitive sensor networks
- Computational neuroscience

Electrical / Computer
- Controls / communications
- Data storage / high performance computing
- Embedded applications
- Power systems
- Micro/nanoelectronics

Mechanical Nuclear
- Functional materials (smart, microporous, sensors)
- Energy (solar, nuclear, flow control, HT materials)
- Medicine (air filtration, drug delivery, biomechanics)
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