THRIV
Translational Health Research Institute of Virginia

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Director, Data Science Institute

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Program Director, THRIV

THRIV: Using data to improve health
THRIV Mission & Vision

An inclusive transformational Institute that facilitates health-related research and positions UVA to be a top tier clinical and translational research institution.

FOCUS:

- Integrate **data** to facilitate **health research** and **improve the health** of the Commonwealth.

- Provide **education** and **career development** for the next generation of health related researchers.

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THRIV Vision

- Portal to facilitate connection
  - Web based resources
  - Research concierge services
  - Emphasis on informatics and data systems

- Education / training
  - Career development awards
  - Incubator concept for broad skills training
  - Voucher program

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Two Phased Approach

Translational Health Research Institute of Virginia:

1st phase THRIV

- Identify cross grounds resources
- Initiate new partner relationships

2nd phase THRIV

- NIH – NCATS Clinical Translational Science Award (CTSA)
- Application planned January 2018

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Required Components of the CTSA

- Administrative Core
- Informatics
- Community and Collaboration
- Translational Endeavors
- Research Methods
- Hub Research Capacity
- Network Capacity
- Innovation/Commercialization (optional)
- Institutional Career Development Core (KL2 – required)

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Max funding – 2.5% of total NIH directs or $3.5 million/year

From the NCATS/CTSA website (updated 4/16):
- UVA NIH directs FY14 - $86,811,108
- UVA NIH directs FY15 - $87,319,264

Total UVA expected request – $17,500,000 (direct)
Mentored Career Development Award

- Junior faculty seeking clinical and translational research career

- Focus on the *use of data to improve health* will be preferred.

- Type and amount of funding:
  - 75% salary/fringe support (total up to $120,000/year) for 2 consecutive years
  - $50,000/year in research related expenses including travel, tuition, etc for both years of the award
  - Home dept guarantees 3rd year of 75% support

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Mentored Career Development Award

Key Dates:

- Call for applications: January 20, 2017
- Letter of Intent Due: March 15, 2017 (optional)
- Applications Due: April 15, 2017
- Reviewer Feedback Due: May 15, 2017
- Notification of Awards: June 1, 2017
- Award Begins: July 1, 2017

Contact Sandra Burks (sgb2c@virginia.edu) for questions/additional information.

http://www.virginia.edu/vpr/THRIV/career.html

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How to Get Involved….

- Join THRIV (membership)
- Support Trainees
  - Mentor
  - Mock study section grant reviewer
  - Subject matter expert
  - Experiential trainer
  - Advisor

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Developing Partnerships…

- Virginia Tech / Carilion
- Inova
- State wide networks
- Others TBD

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Seed Grants: Virginia Tech Carilion partnership

- Seed Funding Program for collaborative research projects in neuroscience for UVA/Virginia Tech Carilion
- One-year grants with funding for up to $75,000 per award for a Co-PI faculty partnership
- Extramural research application within one year of the completion of the award expected

Timeline:
- Applications due: October 2016
- Awards begin: January 2017

http://www.virginia.edu/vpr/THRV/Funding.html

THRV: Using data to improve health
## 9 Projects Funded: Virginia Tech Carilion partnership

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Team Members</th>
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<tbody>
<tr>
<td>The Impact of Cognitive and Ultrasound Stimulated Serotonin and Dopamine Release in Human and Swine Striatum</td>
<td><strong>Jeff Elias</strong>, Professor, UVA Dept. of Neurosurgery; <strong>Read Montague</strong>, Professor, VTCRI and Dept. of Physics; <strong>Mark Witcher</strong>, Asst. Professor, VTC School of Medicine</td>
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<tr>
<td>Sphingosine Kinase Inhibitors and Multiple Sclerosis</td>
<td><strong>Alban Gaultier</strong>, Asst. Professor, UVA Dept. of Neuroscience; <strong>Kevin Lynch</strong>, Professor, UVA Dept. of Pharmacology; <strong>Webster Santos</strong>, Associate Professor, VT Dept. of Chemistry</td>
</tr>
<tr>
<td>Contribution of Early Epileptiform Activity to Secondary Microencephaly in CASK(+-) Mice</td>
<td><strong>Konark Mukherjee</strong>, Asst. Professor, VTCRI and VT Dept. of Biological Sciences; <strong>Howard Goodkin</strong>, Professor, UVA Depts. of Neurology and Pediatrics</td>
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### 9 Projects Funded: Virginia Tech Carilion partnership

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<tr>
<th>Names</th>
<th>Project Description</th>
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<tr>
<td>Deborah Kelly, Asst. Professor, VTCRI and Dept. of Biological Sciences; <strong>Mark Yeager</strong>, Professor, UVA Dept. of Molecular Physiology and Biological Physics and Dept. of Cardiovascular Medicine</td>
<td>Decoding the Role of BRCA1 in Brain Cells using High-Resolution Cryo-EM</td>
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<tr>
<td><strong>John Chappell</strong>, Asst. Professor, VTCRI and VT-Wake Forest School of Biomedical Engineering and Sciences; <strong>Shayn Peirce-Cottler</strong>, Professor, UVA Dept. Of Biomedical Engineering</td>
<td>Computational and Experimental Modeling of Blood Vessel Growth and Vascular Pericyte Investment in the Developing Germinal Matrix</td>
</tr>
<tr>
<td>Sanchita Bhatnagar, Asst. Professor, UVA Dept. Of Biochemistry and Molecular Genetics; <strong>Alexei Morozov</strong>, Asst. Professor, VTCRI and VT-Wake Forest School of Biomedical Engineering and Sciences; <strong>Michael McConnell</strong>, Asst. Professor, UVA Dept. Of Biochemistry and Molecular Genetics; <strong>Mark Beenhakker</strong>, Asst. Professor, UVA Dept. of Pharmacology</td>
<td>Pharmacological Reactivation of Inactive X-linked MECP2 for Rett Syndrome Therapeutics</td>
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**THRIV: Using data to improve health**
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<tr>
<th><strong>Samy Lamouille</strong>, Research Asst. Professor, VTCRI; <strong>Benjamin Purow</strong>, Professor, UVA Dept. of Neurology</th>
<th>Disruption of Cx43-mediated Regulation of Microtubules to Eradicate Glioma Stem Cells in Glioblastoma Treatment</th>
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<tr>
<td><strong>Stefan Duma</strong>, Professor, VT-Wake Forest School of Biomedical Engineering and Sciences; <strong>Steven Rowson</strong>, Asst. Professor, VT-Wake Forest School of Biomedical Engineering and Sciences; <strong>Matthew Panzer</strong>, Asst. Professor, UVA Mechanical and Aerospace Engineering</td>
<td>Brain Strain Patterns Associated with Concussion Injury</td>
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<tr>
<td><strong>Andrea Bertke</strong>, Asst. Professor, Virginia Maryland College of Veterinary Medicine Dept. of Population Health Sciences; <strong>Anna Cliffe</strong>, Asst. Professor, UVA Dept. of Microbiology, Immunology, and Cancer Biology</td>
<td>Chromatin Composition of Latent HSV-1 and HSV-2</td>
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Seed Grants: Inova partnership

- Clinical and translational seed grants. *Using data to improve health*...

- Co-PIs from Inova and UVA

- Up to 10 one-yr grants with funding for projects of ~ $50,000 per award. Funding requests for up to $100,000 may be considered in unique circumstances.

- Focus on genomics, functional biology, bioinformatics, biologically driven engineering, precision medicine, translational research, targeted therapeutics, and/or commercialization of new discoveries.

- One year funding (demonstration projects)

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Seed Grants: Inova partnership

TIMELINE:
- Request for Proposal Release Date: January 20, 2017
- Applications Due: February 28, 2017
- Reviews Complete: March 15, 2017
- Award Begins: April 15, 2017

Contact Sandra Burks (sgb2c@virginia.edu) for questions/additional information.

http://www.virginia.edu/vpr/THRIV/Funding.html

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UVA Resources

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UVA Resources: University Wide examples...

- **THRIV**: using data to improve health

- SIF funding
  - ResearchNET
  - ResearchUVA
  - Research Cluster Computing Support

- Office of Sponsored Programs (OSP)

- VPR
  - IRB HSR – accreditation process

- Licensing & Ventures Group (LVG)

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UVA Resources: University Wide examples….

- BioConnector (bioconnector@Virginia.edu)
- Data Sciences Institute (DSI)
  - Rivanna
  - Ivy Cluster
- Computation And Data Resource Exchange (CADRE)
  - Data software, computation, storage, education
- Advanced Research Computing Services (ARCS)
  - Training, consultation, programming, storage

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UVA Resources: Clinical Research

- CRISP – coming June 2017
- Clinical Data Repository (CDR)
- Virginia Center for Translational & Regulatory Sciences (VICTRS)
- IRBs/IBC/HIRE/IDS
- Clinical research data management/collection:
  - OnCore - currently Cancer Center, soon enterprise wide
  - Multi-Schema Information Capture (MuSIC)
  - REDCap – growing capacity
- Biorepository & Tissue Research Facility (BTRF)

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UVA Resources: Clinical Research - Cancer

- NCI designated Cancer Center - Office for Clinical Research
  - Protocol and regulatory development
  - Budget and billing support
  - Quality assurance
  - Biomedical informatics - OnCore
  - Data Safety & Monitoring Committee (DSMC)
  - Clinical Research Implementation Committee (CIRC) – feasibility and study start-up support

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SOM Resources: Clinical Research

- **Clinical Trials Office** (Lori Elder, Director):
  - Clinical Research Unit (CRU)
  - Project Management – multi-center clinical trials
  - **NEW!** Protocol Development / protocol writing
  - Budgeting and Billing training and support
  - Monitoring/auditing services
    - PAM
  - FDA Inspection Assistance
  - Clinical Research Coordinator – training/mentoring and support
  - **NEW!** Biostatistics support – Jennie Ma

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<th>Genetically Engineered Murine Model</th>
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<td>Antibody Engineering &amp; Technology</td>
<td>Molecular Electron Microscopy</td>
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<tr>
<td>Bioinformatics</td>
<td>Molecular Imaging</td>
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<tr>
<td>Biomolecular Analysis Facility Mass Spec, DNA Sciences, Shared instrumentation</td>
<td>Molmart</td>
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<tr>
<td>Biomolecular Magnetic Resonance Facility</td>
<td>Research Histology</td>
</tr>
<tr>
<td>Biorepository and Tissue Research Facility</td>
<td>Tissue Culture Facility</td>
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<tr>
<td>Exercise Physiology Lab</td>
<td>VCU Cores</td>
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<td>Flow Cytometry</td>
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Education and Training

- Graduate and certificate courses in clinical research, regulatory science, and data science
- Public Health Sciences: Research/Biostats Consultation & Collaboration
  - “PHS at the library” – weekdays, every afternoon
- Data Analysis Support Hub (DASH) – thru HS Library/Bioconnector
- Classroom and individualized learning
  - R, SPSS, Python, Data Visualization, Data Bootcamp
  - Other……