



UNIVERSITY
of VIRGINIA

FULL BOARD MEETING

Strategic Investment Fund - *September 2016*



Strategic Investment Fund Purpose

**To fund
exceptional
investments
that have the
potential to:**

- Transform a critical area of **knowledge or operation**
- Further the **research progress** of the University
- Materially **enhance the quality of the academic experience**
- Support an **affordable and excellent education for Virginians**
- Expand **economic development** in the Commonwealth

Funding Criteria

Maximum 3 years of funding

***Alignment with Cornerstone Plan
or Health System Strategic Plan***

***Meet measures of success each year
to receive funding the following year***

Plan for sustainable funding beyond Year 3

Progress to Date

13 proposals are being recommended for an aggregate investment of approximately \$26 million.



In this first round of funding, initiatives will support:

- **Academic Experience**
- **Research Support/Infrastructure**
- **Research**

These projects will help provide the research, infrastructure, personnel, technology and other resources needed to meet the SIF's goal of supporting the most transformative projects of the University's third century.

Recommended Proposals: Academic Experience

Project Description	Total Funding Recommended
College of Arts and Sciences (A&S) Doctoral Student Support: Increase financial support for doctoral students which is essential for increasing research output and quality	\$4,800,000
Law Public Service Program: Enhance existing program to attract and support students interested in public service as their vocation	\$1,000,000
Darden Merit-Based Scholarships: Provide a bridge to increased private support for scholarships that will attract the most qualified students	\$1,000,000
SCPS Public Safety Program: Seed funding to expand public safety offerings to promote consistent training and education standards and help meet the needs of state and federal law enforcement agencies	\$600,000
Undergraduate Student Opportunities in Academic Research (USOAR) Federal Work Study Research Program: Leverage federal funds to expand student work-study program and provide research experiences	\$559,500
McIntire Global Commerce Program: Seed funding to support the new, intensive three-continent M.S. in Global Commerce Program	\$500,000

Academic Experience: College of Arts and Sciences (A&S) Doctoral Student Support

Supporting Graduate Education



- Competitive **financial support for doctoral students** is critical to:
 - Attracting **highest quality students**
 - Supporting **faculty research**
 - Launching students on rich **research careers** that reinforce University's reputation
- **Reduced time-to-degree**: UVA could lead nation in effectiveness and efficiency
- **Improved retention rates**
- **Improved career outcomes**

The academic eminence of the University rests in its ability to attract and retain faculty in the arts and sciences at the highest levels of research productivity, and such faculty are drawn to institutions with vibrant doctoral programs. Competitive financial support for doctoral students is critical to recruiting strong applicants.

Academic Experience: Law School Public Service Program

School of Law – Putting a Priority on Public Service



- **Public Service programming** at the Law School provides financial, curricular and career supports to students working in public service
- Dedicated **public service scholarships** supporting students who have demonstrated exceptional commitment to public service
- A **student travel program** subsidizing student attendance at public service career fairs and interviews
- A **Public Service Loan Forgiveness Program** helping graduates who work in public service pay their federal loans

Many of our law students are eager to uphold their profession's long tradition of providing crucial public service work, but financial barriers and mounting student loan debt have made that path more difficult. Investment funds will provide scholarships for these students, help them travel to job interviews and career fairs and provide options for loan forgiveness. Each of these efforts will build on the great work the Law School has done to educate not just great lawyers, but excellent, compassionate and dedicated public servants.

Academic Experience: Darden Merit-Based Scholarships

A Bridge to Increased Private Support



- **Improve quality and diversity** of incoming class
- **Increase scholarship support** to remain competitive in recruiting the best students
- **Proportion of students receiving scholarship support** is 47% at Harvard, 50% at Berkeley, and **only 34% at Darden**

The Darden School seeks to attract the most qualified students, close the competitive net tuition gap with peer schools, and make it more financially accessible. There is a highly competitive environment among a tightly clustered group of the top 10-12 business schools which requires notable scholarship funding resources to attract the top talent to Darden.

Academic Experience: SCPS Public Safety Program

Meeting Today's Public Safety Needs



- **Modern policing** requires officers trained for complex situations
- **Terror threats, changing laws, cultural shifts,** and a **growing mental health crisis** form the backdrop
- The professional **Master's Degree in Public Safety Administration**

The School of Continuing and Professional Studies will use Strategic Investment Funding to build partnerships and lay the foundation for a professional master's program that will address critical training needs for 21st Century policing.

Academic Experience:

USOAR Federal Work Study Research Program

Turning Work Study Into Research Experience for Students With Financial Need



- USOAR – **Undergraduate Student Opportunities for Academic Research** – matches first-year, second-year and transfer undergraduate students with financial need to paid research positions
- Has grown from a pilot of **13 students four years ago to 61 participants last year**
- Demand has far outpaced the number of funded positions – nearly **600 students applied** over the past three years
- Provides a **30% match to leverage federal funds**, which cover 70% of student wages

New investment funds will allow USOAR to significantly expand its scope and provide invaluable research experience to more of our undergraduate students. Students who have participated in the program have discovered new career paths that they knew nothing about, and have made valuable contributions to many research fields, ranging from psychology and neuroscience to African-American history, ethics and religious thought.

Academic Experience: McIntire Global Commerce Program

Foster International Knowledge and Cross-cultural Understanding



- Aims to develop young managers' ability to **manage complex business operations globally** and **move skillfully across multiple cultures**
- Enrolled students will **live and study as a cohort on three continents**, learning from each other and from business faculty at the three universities
- Graduates will earn:
 - **M.S. in Global Commerce from McIntire**
 - **M.S. in Global Strategic Management from ESADE Business School in Barcelona, Spain and**
 - **Certificate in International Management** from Lingnan College at Sun Yat-sen University in Guangzhou, China

Recommended Proposals: Research Support/Infrastructure

Project Description	Total Funding Recommended
ResearchNET Research Development: Identify and pursue large-scale research opportunities	\$4,461,000
Research UVA Next Generation Technology: Implement robust electronic research support system to handle increased research application volume and changing technology requirements	\$2,952,724
Research Cluster Computing Support: Expand capability and support for high-performing and secure computing clusters	\$750,000
Reimagining Librarianship Strategic Plan: Examine shifting scholarship needs and create a plan to support new forms of research	\$250,000

Research Support/Infrastructure: ResearchNET Research Development

Helping Faculty Successfully Compete for Sponsored Research Funds



- Identification of **research opportunities, proposal shaping, and grant writing support**
- Invest in **research intelligence tools** to include new software and databases
- **Faculty training** in research proposal strategies
- **Co-funded** by VP for Research, Sponsored Programs, and Schools

ResearchNET will provide essential support to faculty competing for sponsored research grants by creating an infrastructure to identify grant opportunities and to facilitate strong grant proposals. This will be especially valuable for large interdisciplinary projects involving one or more schools or units of the University.

Research Support/Infrastructure: Research UVA Next Generation Technology

A Platform for Advancing UVA Research Capacity and Competitiveness



- Build support for **pre-award activities** of grant proposal submission and development
- UVA faculty submit **over \$1 billion in research proposals annually**
- **Increases efficiencies, reduces compliance risk, and reduces administrative burden** on faculty, allowing them to focus more time on research activities
- Enables University to **track and report on proposal activity**, including “hit rates” and operational metrics such as Sponsored Programs turnaround time

This investment will support an enterprise-wide information system designed to provide access to critical sponsored program financial information.

Research Support/Infrastructure: Research Cluster Computing Support

Expanding High-Performing Computing Clusters

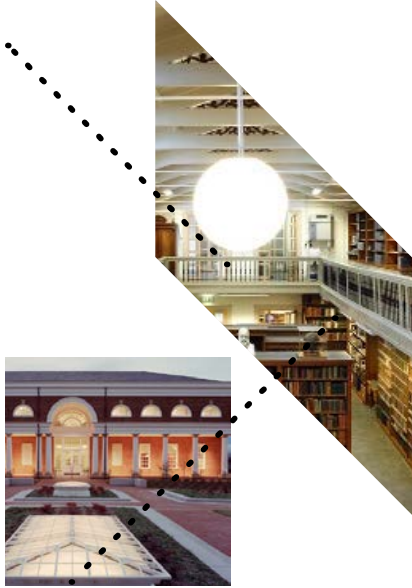


- **Hardware, software, and research support**
- **Expand capabilities** and provide more **reliable and resilient service** for our advanced high-performance computing clusters
- Keep computing resources operating at a level that will **enable the University to attract and retain major researchers**
- Computing support initiative will be **co-funded** by VP-Information Technology, Data Science Institute, A&S, and SEAS

In order to achieve bold research goals, the current research computing infrastructure must be expanded, hardened, and supported to serve researchers across multiple schools and disciplines.

Research Support/Infrastructure: Reimagining Librarianship Strategic Plan

Library Support for Research and Scholarship



- Dean of Libraries seeks a closer **collaboration between information science and faculty research**
- New skill sets are needed to **address shifting research needs**, including **digital expertise and data analytics**
- Bring **greater research expertise** to the library and educate faculty on uses of that expertise
- Build capacity among students, scholars, and citizens for **information literacy and digital fluency**

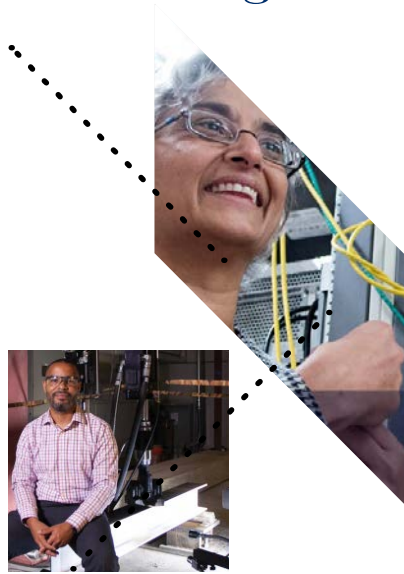
To meet the needs of today's researchers a new vision must be forged. A new strategic plan will be developed for the University libraries that will determine how to address challenges facing researchers, such as: technical and methodological problems, proliferating tools for analysis, rapidly changing expectations for the preservation and dissemination of original data and results, and options for storage resources.

Recommended Proposals: Research

Project Description	Total Funding Recommended
School of Engineering and Applied Science (SEAS) LinkLab for Cyber Physical Systems: Build an interdisciplinary space for research that will bridge the gap between the cyber- and physical-worlds	\$4,810,000
Curry Research Faculty : Increase amount of education research funding by hiring faculty focused on identifying proposal opportunities and securing grant awards	\$2,406,400
College of Arts & Sciences (A&S) Center for Catalytic Conversion of Natural Gas : Augmented resources for NSF research consortium if Phase I funding is secured.	\$1,955,000

Research: SEAS LinkLab for Cyber-Physical Systems

Enabling Research to Solve Society's Biggest Challenges



- **Energy, health, transportation, environment:** today's Grand Challenges
- Solutions only possible when **scientists and engineers from different disciplines conduct research together**
- **SEAS Link Lab:** combines (“links”) 23 faculty from five departments

Investment funds will allow the School of Engineering and Applied Science to create lab space to conduct Cyber-Physical Systems research. This is cutting edge research that bridges the gap between the cyber world and the physical world, including devices that monitor human activities and health, automated vehicles, systems that prevent cyber attacks on police cars and emergency vehicles, and technology improving traffic and travel safety.

Research: Curry Research Faculty

Increasing research funding through strategic hires and program support



- **Recruit 7 research faculty members** with an established track record of federal grants
- Builds on Curry's success in research productivity – **ranked #1 in research support per square foot of lab space at UVA**
- Students will benefit from **connecting with highly active research faculty**
- Hiring will **align with cluster hire plans** that focus on **autism, health behavior, neuroscience, etc.**

This investment supports Curry's goal of increasing sponsored research activities. The research will span across disciplines and is intended to attract funding from federal agencies such as the National Institutes of Health, the National Science Foundation, the Institute of Education Sciences, and the National Institute of Justice.

Research: College of Arts and Sciences (A&S) Center for Catalytic Conversion of Natural Gas

Enabling Research to Solve Society's Biggest Challenges



- Cost effective processes to **convert natural gas into liquid fuels**
- Enables **utilization of natural gas** without expensive gas pipeline infrastructure and enables use as fuel in the transportation sector
- Will support **advancements in research, education, and public outreach**

The shale gas boom has presented the U.S. with an unprecedented opportunity to emerge as a global leader in the chemicals and energy sectors. Despite newfound access to large amounts of inexpensive natural gas, advances in catalysis for the conversion of natural gas are needed to optimize utilization and to limit negative environmental impact.

Summary of Recommended Proposals for BOV Action

Project	Total Funding Recommended
SEAS LinkLab for Cyber Physical Systems	\$4,810,000
A&S Doctoral Student Support	\$4,800,000
ResearchNET Research Development	\$4,461,000
Research UVA Next Generation Technology	\$2,952,724
Curry Research Faculty	\$2,406,400
A&S Center for Catalytic Conversion of Natural Gas	\$1,955,000
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Research Cluster Computing Support	\$750,000
SCPS Public Safety Program	\$600,000
USOAR Federal Work Study/Research Program	\$559,500
McIntire Global Commerce Program	\$500,000
Reimagining Librarianship Strategic Plan	\$250,000
Total	\$ 26,044,624

Next Steps

- Monitoring and reporting on performance metrics
- Future investments will be considered at each BOV meeting
- Continue to seek bold, transformative proposals