BoV Ad Hoc Committee on Research: Update Summary (2017)

University Research was identified as a key institutional functional area to enhance at the June 2016 BoV meeting. After a review with administration and the BoV, the Rector requested the formation of an Ad Hoc Committee focused on Research and appointed BoV member Jeff Walker to chair. The research topic was further developed and explored at the BoV summer 2016 retreat. Ultimately, the Ad Hoc Committee was charged to focus on achieving strategic development of growth-oriented, differentiated and high impact research at UVA.

Framing Questions:

1. What areas of research are growing, and are forecasted to grow most rapidly?
2. What is the relationship of the current UVA scholarship portfolio/reputation to value and prospects in contemporary society?
3. What are the impediments and problems that must be resolved to make UVA a national leader in research?

Based on the guidance and feedback from the BoV, the Ad Hoc Committee split into multiple groups to focus on strategic thematic areas. Led by BoV committee members and supported by school and administrative content experts, these subcommittees worked the full year to develop action oriented solutions to the questions and issues identified by the BoV and University leadership. The work of the groups was compiled, summarized and presented at the BoV June 2017 meeting.

Select Group Accomplishments

1. A collaborative approach was used to unify the faculty/admin/BoV to form teams and answers questions and define outcomes for each of the individual groups. We received very positive feedback on this effective approach.

2. Defined the need for enhanced professional development for faculty.
   Subgroup 1: Faculty Professional Development and Effectiveness in Research (Frank Genovese, BOV; Tammy Murphy, BOV; Peggy Shupnik, SOM faculty; Kerry Abrams, Provost office*; Dinko Pocanic, A&S faculty; Craig Volden, Batten faculty; Len Schoppa, A&S faculty; Joan Bienvenue, ARI; Susan Barker, SEAS admin; Jeff Fox, VPR).

3. A Quarterly report of priority research areas was developed. We plan to have this new report updated each quarter to reflect current priorities. This report was created as a group effort by the VPR office and the schools. Subgroup 2A: Key Research Priorities. (Jeff Walker, BOV; John Hawley, A&S faculty; Pam Norris, SEAS faculty; Linda Bullock, Nursing faculty; Steve Wasserman, SOM admin; Francesca Fiorani, A&S faculty; Phil Parrish, VPR*).
4. **Identified approaches to reduce the “42%” administrative burden problem for faculty.** This effort will free up faculty to have more time to focus on their research. Additionally, we need to work on a way to better communicate with internal stakeholders on how to reinvest the Facilities and Administrative Costs (F&A). Guidelines need to be given to researchers. Coordination with Development needed.  
*Subgroups 3.D. Innovation and 5.E. F&A Recovery. 3.D. (Tammy Murphy, BOV; Phil Parrish, VPR; Joan Bienvenue, ARI; Steve Wasserman, SOM admin*; David Touve, iLab faculty). 5.E. (James Reyes, BOV; John Hawley, A&S faculty; Catherine Bradshaw, Curry faculty; Dave Hudson, VPR; Melody Bianchettio, COO*).

5. **Recommended best-in-class approaches to seed internal innovative, concept stage projects.** *Subgroup 4.C. Strategic Investment Fund (SIF).* (Jeff Walker, BOV; John Hawley, A&S faculty; Pam Norris, SEAS faculty; Louis Nelson, Arch faculty; Peggy Shupnik, SOM faculty; Catherine Bradshaw, Curry faculty; Phil Parrish, VPR; Pace Lochte, COO admin*).

6. **Working with Advancement, determined the need to promote institutional research priorities.** *Subgroup 2.A. Key Research Priorities.* (Jeff Walker, BOV; John Hawley, A&S faculty; Pam Norris, SEAS faculty; Linda Bullock, Nursing faculty; Steve Wasserman, SOM admin; Francesca Fiorani, A&S faculty; Phil Parrish, VPR*).

7. **Identified the critical shortage of interdisciplinary research space for research-intensive schools.** *Subgroup 3.A. Facilities.* (Nina Solenski, BOV; Dick Minturn, Provost*; Peggy Shupnik, SOM faculty; John Notis, SEAS admin; Luis Carrazana, Office of Arch; Don Sundgren, COO, FM).

8. **Established the need for a modern enterprise-level research management system.** *Subgroup 5.D. Research Proposal Analysis.* (Barbara Fried, BOV; Elizabeth Adams, OSP*; Catherine Bradshaw, Curry faculty; Jeff Blank, VPR, Jeff Fox, VPR).

9. **Established the need for significant scientific and translational research computing needs (computing infrastructure)** *Subgroup 5.D. Research Proposal Analysis.* (Barbara Fried, BOV; Elizabeth Adams, OSP*; Catherine Bradshaw, Curry faculty; Jeff Blank, VPR, Jeff Fox, VPR).

10. **Identified significant improvements in Research Review Process and Metrics.** *Subgroup 5.B.C. Goal setting/Metrics/ Reporting.* (Frank Genovese, BOV; Jim Murray, BOV; Babur Lateef, BOV; Pam Norris, SEAS faculty*; Francesca Fiorani, A&S faculty; Peggy Shupnik, SOM faculty; Elizabeth Adams, OSP; Catherine Bradshaw, Curry faculty; Jeff Blank, VPR; Melody Bianchettio, COO*; Katie Shevlin, Foundations).

11. **Enabled a foundation focused fundraising.** Approved funding now in place to add staffing for research fundraising efforts from foundations. Foundations are the nation’s fastest growing area of support for research. UVA is lagging significantly
behind our peers in investment in this area, thus four new staff (4) members including a dedicated research communication staff specialist will be added to UVA. Subgroup 4.B. Fund Raising. Jeff Walker, BOV; Mark Luellen, Development; Katie Shevlin, Foundations*; Karen Rendleman, HS-Dev; Catherine Bradshaw, Curry faculty; Sankaran (Venkat) Venkataraman, Darden).

**Next steps:** Group accomplishments reported above has sufficiently answered the framing questions. Moving forward, the new VPR with the BoV, Schools, and central leadership will develop a comprehensive University research strategic plan and identify key elements from which to submit for SIF funding to move the agenda forward. In the process, the framing questions will continue to provide guidance. Additionally, we plan to develop a continuum of metric review of inputs and outputs to better understanding the cost structure for University research.
BoV Ad Committee on Research Workplan

Strategic "Seed Funding"
(Leads: Tammy Murphy, BOV; Peggy Shupnik, SoM; Pam Norris, SEAS; John Hawley, College; Catherine Bradshaw, Curry; M. Ramasubramanian, VPR)

- Collaborative Research Seed Fund
  - foster new interdisciplinary research collaborations
  - simple application process, low barriers to entry, self-selected faculty groups
  - Modeled after the MCubed program at the U of Michigan: 10/1 ROI

- Research Innovation Seed Fund
  - For highly research-active faculty who have at least 2 grants and have a "big" new idea for which they need seed funding
  - Proposal driven and selective

  Resources: VPR-sponsored SIF proposal, next round, $10M/3 years (both funds)

Faculty Professional Development for Researchers
(Leads: Barbara Fried, BOV; Kerry Abrams, Provost; Michael Palmer, Teaching Resource Center; Jeff Fox, VPR; Elizabeth Adams, OSP)

- Establish “Research Grants Academy” – grants-writing curriculum, effective research communications (VPR)
  - Early stage grants (Assistant Professors)
  - Single PI grants
  - Large team interdisciplinary proposals

  Resources: SIF request, next round, ~$1.8M, VPR & OSP

- Create and roll out Standardized Financial Planning and Management Tool
  - Enables PI’s to manage grant expenses, conduct "what-if" scenarios as a project unfolds
  - VPR/OSP lead

Address the “42%” issue: National Academy Federal Demonstration Projects (2005 & 2012)
(Leads: Jimmy Reyes, BOV; Susan Barker, SEAS; Rana Ganguly, College; David Driscoll, SOM; Deborah Richardson, Curry; Kelly Morrison, OSP; Jeff Fox, VPR)

- Goal: Streamlined faculty access to spendable accounts after UVA is notified of grant awards

  Resources: a key focus of recent OSP leadership hire
• Improve communication on overhead (F&A) issues both internally and externally to donors.
  o Guidelines to need be created and given to researchers to set acceptable standards as they submit grants and discuss with donors
  o Coordination with the development team needed
• Enhanced administrative support:
  o Faculty with complex grants (e.g., centers)
  o Faculty with 3+ significant grants

Resources: In discussion: VPR, Research Associate Deans

Professional Development: Research Managers
(Leads: Barbara Fried, BOV: Kerry Abrams, Provost; Research Associate Deans; Michael Palmer, Teaching Research Center)

• Education for all faculty who supervise other faculty (e.g., department chairs, center directors) – build upon “Leadership in Academic Matters” program
  o Lead: Office of the Provost
  o Requires buy-in and support from Deans

Resources: Pilot curriculum @ $100K

Augment Advancement for research priorities
(Leads: Jeff Walker, BOV: Katie Shevlin & Mark Luellen, Advancement; Catherin Bradshaw, Curry; Eugene Schutt, College Foundation)

• Coordinate staffing for research fundraising efforts from foundations
  o VPR, Provost, Development work together to bring new staff on board.
• Invest to increase national visibility and attract research-focused private sponsors (both individuals and foundations)
  o Recommend a pilot contract with a PR firm to promote top 5 research areas of priority going into campaign

Resources: Ballpark: $500K

Establish scalable & secure computing infrastructure
(Leads: Jeff Walker, BOV; Ron Hutchins, VP-IT; Phil Bourn, DSI/Provost; Mitch Rosen, SEAS; Aron Teel, College; Bart Ragon, SoM/Health System Library)
• Affordable *scientific computing* scalable to future needs of faculty and research volume
  - Attract and support top faculty and students
  - Make current faculty’s grants more competitive
• World-class *computational infrastructure for health & other translational research* (patient & other protected data)
  - Implementation of modern clinical trial management tools (online database)
  - Infrastructure for seamless connectivity with translational research partners which are separate legal organizations (e.g., the UVA Health System, INOVA)

**Resources:** VP-IT, CIO, Advanced Computing Team, 2 years

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**Collaborative Research Space**

*(Leads: BOV member from B&G; Dick Minturn, Provost; Don Sundgren, Facilities/COO; Anna Towns, College; Peggy Shupnik/Jessica Hurley Smith, SoM; Pam Norris/Michael Todd/SEAS; Luis Carrazana, Architect Office)*

• Major Transdisciplinary Research Themes have emerged, each having state-of-the-art research space needs:
  - Brain & Neuroscience –5 Schools; need for experimental and computational space and specialists, imaging and microscopy, behavior testing, animal vivarium, meeting space
  - Computation, Data Science & Society –7 Schools + DSI; virtual reality labs, visualization & imaging, teaching and clinical, computational center, Data Science Institute, offices for technology staff from academic and HS
  - Physical Science & Engineering –4 Schools; Advanced Biomanufacturing, MMI, Energy, Environmental Resilience, Large instruments design/build, Wireless & Optical Communications, Nanomaterials, mm-wave & THz devices and systems
  - Near-term opportunity to transition currently planned Thornton microelectronics clean room upgrade over the next 18 months into an integrated clean room for hard, soft and biological materials (live cells)

• Modern research space is critical for top-quality faculty recruiting and retention
• Developing as part of the capital improvement plan: Leads with BoV → Deans from SEAS, A&S, and Medicine; Provost, VPR, Architect, COO, Facilities
Improve Research Review and Reporting
(Leads: Jeff Walker/Jim Murray, BOV: Steve Wasserman/Stewart Craig, SoM; Neal Grandy, College; Vonda Durrer/Urmila Bajaj, OSP; Jeff Blank VPR)

- New research dashboard was developed to easily report out on proposal, expenditure and award data (e.g., proposal hit rate). Data elements are consistent with funding metrics used to benchmark with peers – currently being piloted by Schools
- Additional comparative research metrics are tracked centrally: National Academy membership and technology commercialization data
- Developed strategy to use NSF Higher Ed Research & Development (HERD) survey to review and assess internal and external research expenditures by thematic areas over time
- Comparative rakings. How do we compare to other schools:
  - What areas we are strong in vs. them and we are weak vs. them
  - Identify areas that should be a priority

Resources: development of online faculty profile system for reporting scholarly activities

Status: In planning stage with VPR, VP-IT, Provost

- Pilot with 3 Schools (18 months)