



## Research & Innovation Office

UNIVERSITY OF COLORADO BOULDER

Research & Innovation Office  
Sustainability, Energy and Environment Community (SEEC) N321  
University of Colorado Boulder  
4001 Discovery Drive  
UCB 99  
Boulder, Colorado 80303  
[rio@colorado.edu](mailto:rio@colorado.edu)

To: Academic Futures Committee  
From: The Research & Innovation Office (RIO)  
Re: Response to Draft Academic Futures Report (September 2018)  
Date: September 28, 2018

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The Research & Innovation Office (RIO) applauds the September 2018 Draft Academic Futures Report's emphasis on interdisciplinarity and its recognition of "interdisciplinarity" as one of CU Boulder's "key values." With respect to research, the university has a longstanding tradition of interdisciplinary collaboration as evidenced by our 90+ campus research centers and 11 research institutes, spanning from JILA and CIRES – which date back to the 1960s – to the BioFrontiers Institute (2011), our most recently established institute.

As is typical of our peer institutions, supporting interdisciplinarity is inherent and central to the role of the Vice Chancellor for Research & Innovation. RIO – formerly the Office of the Vice Chancellor for Research – has an enduring record of supporting and catalyzing inter- and multidisciplinary research – across the entire campus as well as with other academic institutions, industry, foreign governments and nonprofit organizations.

Increasingly, RIO plays an active role in convening interdisciplinary groups around emerging research areas. For example, as Big Data emerged as a research thrust, the Vice Chancellor for Research & Innovation proactively worked with the Associate Deans for Research to coordinate and leverage ongoing faculty searches and hires in Big Data; held a campus-wide Research Blitz on Big Data; and as described below, designated Big Data as a priority area for the seed grant program to help catalyze new research collaborations. The office is using a similar tactic with respect to novel opportunities in quantum research, sustainability and campus computing.

RIO is steadfast in its commitment to providing one of the Committee's key recommendations; namely, "administrative support and infrastructure to encourage faculty to collaborate on novel research problems and opportunities for creative expression." By way of illustration, since its launch in 2006, the office's signature seed grant program has awarded more than \$11 million to more than 250 faculty researchers and research teams across CU disciplines. The seed grant program is "specifically aimed to support inter- and multidisciplinary work on projects that explore new areas of research." For example, two interdisciplinary projects recently funded by the seed grant program include (1) a collaborative research partnership of natural and social scientists from Environmental Engineering, Environmental Studies, and Earth Lab for work related to resilient and sustainable sanitation systems; and (2) a new collaboration between Aerospace Engineering and Geography faculty to establish an automated storm surge modeling environment.

Furthermore, in 2017 and 2018, the program prioritized Big Data projects. Big Data, an emerging research area, is inherently inter- or multidisciplinary and relates to the generation, analysis, use, and application of large and complex datasets requiring new or non-traditional

tools. Two recently funded Big Data projects include “leveraging machine learning to improve biological protocol accuracy,” a collaboration of 27 individuals from five research laboratories in Computer Science, Biochemistry, and Molecular, Cellular and Development Biology, and “Big data for a big problem: understanding how urbanization alters contemporary evolution using high-throughput sequencing and high-resolution animal tracking,” which brings together faculty from Ecology and Evolutionary Biology, Art and Art History, CU Science Discovery, and the Institute of Arctic and Alpine Research (INSTAAR).

Significant investments have been made to build RIO’s research development team in light of the increasingly interdisciplinary funding landscape. This team, which serves the entire campus, includes a fulltime proposal writer who focuses on large inter- and/or multidisciplinary grants as well as two fulltime research development coordinators. Together, they are spearheading several new efforts to further foster interdisciplinary collaborations, including those that seek participation and contributions from disciplines in the arts, humanities and social sciences. Examples include:

- *Research Blitz Events*: RIO regularly organizes Research Blitzes with the intent to spur research collaboration across disciplines. Past themes include:
  - Big Data (March 2017)
  - Sustainability (March 2018)
  - Innovations in Security and Resilience (October 2018)
- *Convening groups around emerging research themes*: RIO actively convenes research groups to bring multiple disciplines together to collectively strategize how best to address emerging research opportunities. Recent efforts include groups in quantum research (physics and engineering); computational biology; statistics, mathematics, and computer science; sustainability; among others.
- *Faculty Development*: RIO initiated the “Principal Investigator Academy” program to orient early career faculty to CU Boulder research community and resources. This program establishes an annual faculty cohort from across disciplines (11 departments represented in 2017, 22 departments represented in 2018), creating opportunities to breakdown departmental silos, network and collaborate.
- *Research & Innovation Week*: RIO will hold CU Boulder’s first-ever Research & Innovation Week October 15-19, 2018 to elevate research awareness across campus, build a sense of shared community, create opportunities for collaboration and recognize exceptional leadership and outcomes.

Moreover, RIO has intentionally identified additional opportunities to support faculty in the arts and humanities. Beginning in 2017, RIO’s research development team presented to several departments including Asian Languages and Civilizations, the Departments of French and Italian Languages and Religious Studies as well as the Art Museum’s administrative staff. During these visits, the research development team offers to help identify external funding opportunities as well as potential faculty collaborators from other departments (“matchmaking”). Beginning in fall 2018, RIO and the College of Arts & Sciences have partnered to provide grant writing support to faculty on single investigator proposals as well as inter- and multidisciplinary collaborations.

RIO is committed to upholding CU Boulder’s excellence in all its domains of research, scholarship and creative works, and to the value of integrating these activities across domains and disciplines. RIO’s continued efforts will help to sustain and build interdisciplinary collaborations. The entire RIO team is eager to ensure the success of these efforts by working in close coordination with faculty and academic leaders across our campus.