



# Advancing Science 2017-2018

Renewed Strategic Foci, UBC Faculty of Science



THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Science

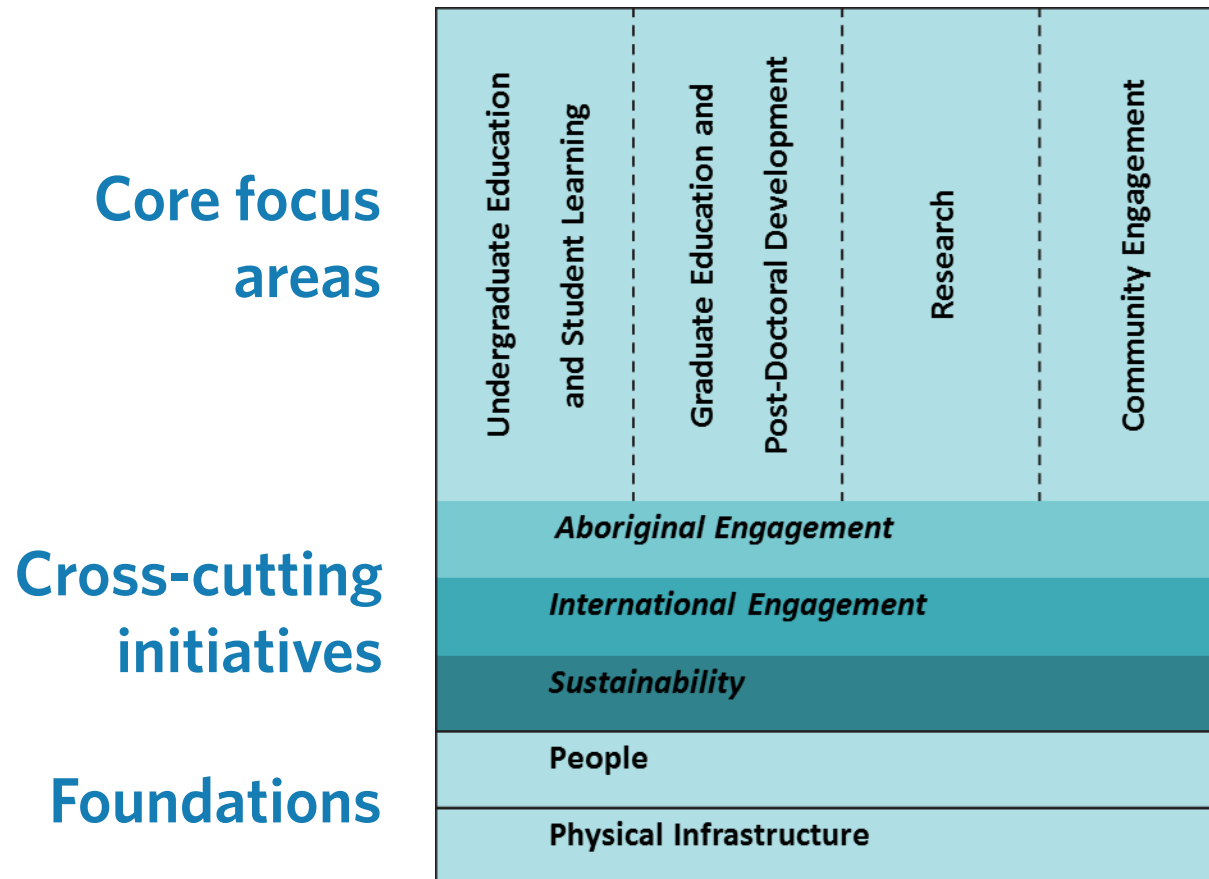
# **Advancing Science: 2017-2018 Renewed Strategic Foci, UBC Faculty of Science**

Advancing Science: 2017-2018 is designed to guide the Faculty's collective efforts over the next two years, as well as help shape UBC's emerging strategic plan. It focuses on four key initiatives—research excellence, teaching excellence, computer and data science, and innovation—while also continuing to renew and build on the nine core areas and commitments originally articulated in Advancing Science 2011.

# Our vision

Within the next decade, UBC Science will be the top science faculty in Canada, recognized for our disciplinary and multidisciplinary research excellence, our world-leading, evidence-based undergraduate science education, and our innovative graduate training programs.

# Our pillars







**Increase UBC Science's  
research excellence**

# Increase UBC Science's research excellence

- Support innovative research and graduate training initiatives across the life sciences, physical sciences, and mathematical and computational sciences—including in data science, oceans and fisheries research, biomedical science, and science policy
- Provide support (e.g., grant facilitation) for outstanding research groups and individual faculty to increase success in major research funding competitions (e.g., CFREF, CERC, NCE, CREATE, NSERC, CIHR)
- Identify and support existing and emerging areas of research excellence through the FLARE research cluster initiative
- Grow UBC's Data Science Institute (launched July 2016) and other multidisciplinary research initiatives, including in environmental sustainability
- Develop sustainable operating support for shared research facilities (e.g., Sequencing and Bioinformatics Consortium, Bio-imaging)




**Advance evidence-based approaches to science education**



# Advance our evidence-based approaches to undergraduate science education

- Integrate the Carl Wieman Science Education Initiative and science education specialists into Skylight (Science's Centre for Learning and Teaching)
- Incorporate active learning techniques into all large science classes, and further evaluate effectiveness on student learning
- Articulate BSc and specialization learning outcomes (e.g., computing skills) and ensure graduates can effectively communicate their experience, scientific knowledge and skills
- Explore mechanisms to provide additional research and experiential learning opportunities for BSc students
- Further explore teaching and learning opportunities for UBC students presented by e-learning
- Continue to enhance the BSc student experience with developmental support and resources





**Meet increased  
demand for computer  
and data science**

# Meet increased student demand for computer science and data science by expanding our courses and programs

- Successfully recruit outstanding faculty in computer science and data science across the Faculty of Science
- Grow professional Master of Data Science program (launched Sept 2016) and develop applied MDS pillars
- Grow new Computational Thinking course (piloted Fall 2016)
- Develop new Software Engineering program jointly with Applied Science
- Support data science and computational methods education and research in all UBC Science programs



**Help position UBC at  
the centre of  
innovation ecosystems**



# Help position UBC at the centre of local and regional innovation ecosystems

- Grow UBC Science's co-op, graduate internships, and other work-integrated learning programs to prepare more of our students for a wide range of careers
- Increase UBC Science participation in e@UBC, HATCH and CDL-West
- Partner with the VPR, other UBC Faculties, UW and SFU on regional innovation initiatives such as the Cascadia Innovation Corridor
- Increase local, regional and national industry grants and contracts
- Grow UBC Science's visibility and brand as a premier research authority and resource on appropriate local, regional and national stages



**Reaffirm our  
commitment  
and efforts to:**



# Reaffirm our commitment and efforts to the following:

- Increase our success at recruiting and retaining the very best faculty (via diversity, housing, and dual career initiatives), post-doctoral fellows, research associates, graduate students, undergraduate students and staff
- Actively promote faculty, students and staff for national and international awards
- Enhance our ability to provide comprehensive and developmental student advising and career support
- Renew or replace aging physical infrastructure, with a particular emphasis on new buildings to house Mathematics, and updated Chemistry teaching labs
- Increase our engagement with UBC Science's broader community including alumni, emeriti faculty and the public
- Increase the effectiveness and focus of our communications efforts around undergraduate and graduate education, and research excellence
- Increase the diversity and well being of our faculty, staff and students
- Ensure the long-term financial health and sustainability of our Faculty and Departments, and increase our operational analytics capabilities



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