Goals for today:

- Review of objectives for the process
- Update on the proposal review and Signature Area development process
- Discussion of emerging thematic clusters
- Overview of next steps
  - Opportunities for input
  - Timelines and expectations
What a signature area is not:

These areas will not replace the broad base of fundamental and applied research, scholarship, and creative activities ongoing at the university.

Diversity and breadth in teaching and research will remain an essential feature of the University of Alberta—without it the development of signature research and teaching areas would be impossible now and in the future.
What a signature area is:

A signature area of research and teaching area will:

• Meet the criteria listed in Objective 12
• Build on existing and emerging excellence
• Vary in breadth and depth to reflect the uniqueness of the area
• Involve multiple faculties, departments, and disciplines and promote multi-disciplinary connection and collaboration
What is the immediate value of being a signature area?

Access to and dedication of campus resources for:

- Government advocacy at highest levels
- Priority for funding applications and philanthropic support
- Aligned hiring
- Practical support for program development
- Communications
What is the *longer-term value* of signature areas?

• Builds the U of A’s capacity to effect change for the public good by tackling the big questions and challenges

• Attracts talented students, graduate students, post-docs, and new hires and build dynamic, innovative, creative teams—people who come to the U of A to be part of something truly extraordinary

• Enables and deepens connections with the external organizations through which we can extend the reach, influence, and impact of our research

• Prepares us to apply for major, collaborative research grants—and be successful
Key objectives for the process

• Analyze, synthesize, connect and develop signature areas
• Develop emerging areas we can begin to nurture for the future
• Develop a process for managing the signature areas life cycle
• Identify leadership and administrative structures appropriate to each area
The process

<table>
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<tr>
<th>November-January</th>
<th>Development of submissions by individuals, groups, and Deans</th>
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| **January 28, 2017** | Deadline for submissions  
• 57 received |
| **February** | Signature Areas Development Panel analyzes, synthesizes, connects and develops signature and emerging areas proposals submitted by the university community |
| **March - April - May** | Conduct consultations through:  
• campus forum (March 23)  
• online feedback  
• focus groups  
• stakeholder meetings |
| **May - June** |  
• Finalize current signature areas and emerging areas  
• Identify governance and oversight mechanisms for signature areas (including wind-down)  
• Identify review cycle and process for future new areas |
| **Summer** | Formal announcement/launch of first area(s) |
Review process: where are we today?

• All individual proposals have been reviewed by Signature Areas Development Panel (SADP)
  • Objective to identify thematic areas and opportunities for collaborations and development

• SADP is exploring potential Signature Area themes
  • General thematic areas in which a broad range of faculty and units can collaborate
  • Underpinned by key pillars that have high impact, national and global stature, and differentiation
Theme development

• Potential Signature Areas differ in scope, readiness, degree of existing vs. potential collaboration
  • Resource needs and timelines for development may be different for each theme

• Themes will evolve through consultation with proponents and stakeholders

• Progress in each area requires committed champions and resources
Potential theme areas we are exploring

- Indigenous Peoples: Sustainable, Community-Based Revitalization
- Research at the Intersections of Gender
- Environmental Futures: Energy, Resources and Society
  - Food for Life: Agriculture-Food-Nutrition-Health and Society
- Learning from Data: Big Data and its Applications across the Disciplines
- Wellness
- Nanoscience and Nanotechnology
Indigenous Peoples: Sustainable, Community-Based Revitalization

Core themes:

• **Socio-ecological sustainability:**
  – biodiversity, economic diversification, governance, Indigenous environmental knowledge

• **Northern environments:**
  – climate change in the Arctic, northern communities, indigenous knowledge and cultures, climate change strategy, energy infrastructure, energy efficiency for cold climates

• **Water and land-use:**
  – biodiversity, rural development, indigenous sovereignty, water management, waste management, water and land-use rights, cultural perspectives on water and land, relational practices, ecosystem integrity, parks and recreation, leisure, cultural history

• **Health:**
  – Indigenous health practices; environmental health; healthy communities; mental, physical, and emotional health; language revitalization

• **History and culture**
Indigenous Peoples: Sustainable, Community-Based Revitalization

Cross-cutting commitments:

• Sustainability
• Meaningful engagement with Indigenous partners
• Attending to complexity of Indigenous politics and history
• Reconciliation and revitalization
Research at the Intersections of Gender

Core themes:

• **Identity:**
  - How are social identities at the intersections of gender formed, reinforced, claimed and resisted?
  - How does gender act upon, and how is it shaped by, institutions, structures, representational systems, and diverse spaces and places (western, non-western, transnational, digital)?

• **Society:**
  - How do we think about gender’s intersections in relation to ideas and practices of justice, rights, freedom, ethics and leadership?
  - How can inclusion, diversity, and equality be fostered at gender’s intersections with race, class and other vectors of cultural belonging?

• **Health:**
  - How might a focus on gender transform research and teaching across the health sciences, by paying attention to under-served and vulnerable populations?
Research at the Intersections of Gender

- **Cultural Forms and Social Belonging** (representations, politics of culture, politics, social movements)
- **The Care of Bodies** (WCHRI, nursing, disability studies, specific diseases/disorders, elder care)
- **Sustainability, Responsibility, and Resistance** (environment, Treaty 6, protest)
- **Sexuality and its Discontents** (sexual assault law, legal rights, medicalization of queer/trans bodies, rights and recognition, subcultures)
- **Locating the Intersections of Gender** (places, spaces, and community engagement)
- **Money and the Costs of Inequality** (pay equity, class divisions, social reproduction, state support for childcare, resource economies)
- **Equity, Diversity, and Institutions** (glass ceilings, whiteness of social power, political institutions, proportional representation)
- **Violence and Vulnerability** (criminalization, demographics of prisons, missing and murdered Indigenous women, mandatory sentencing, immigration law, sexual)
- **Circulation, Communication, and Community Formation** (media forms, women in journalism, community treatment orders, gentrification, displacement)
Environmental Futures: Energy, Resources and Society

Life-cycle resource development and management to sustain society and the environment

Core themes:

• **Energy**
  • Intergenerational energy transitions
  • Enabling energy technologies

• **Resource Development**
  • Responsible resource development, management and stewardship

• **Society**
  • Engagement with stakeholders and communities
  • Comprehensive, integrative environmental stewardship
  • Planning, creating, constructing, energizing sustaining communities, governance
Food for Life: Agriculture-Food-Nutrition-Health and Society

Core themes:

• Food production systems
• Food safety and processing
• Impact of food systems on society
  • Diet and culture
  • Evolution of food systems
  • Food sovereignty/security (e.g. northern Canada)
• Nutritious, quality food and human health
Learning from Data: Big Data and its Applications across Disciplines

Core themes:

• **Vertical foci:**
  • Health
  • Science and Engineering
  • Humanities and Social Sciences
  • Arts

• **Horizontal/cross-cutting foci:**
  • Machine learning
  • Artificial intelligence
  • Innovative teaching and learning
  • Research data management and preservation
  • Entrepreneurship and creativity
Learning from Data: Big Data and its Applications across Disciplines

Opportunities for interdisciplinary leadership:

- **Artificial Intelligence**
  - How can AI help develop new materials, learn about music, enhance video games?

- **Health**
  - How can we develop customized health solutions?
  - How can we use population data to promote health?

- **Arts, Humanities and Social Sciences**
  - What are the ethical, policy and social issues raised by big data and AI?
  - How can we use digital technologies for the public good?

- **Innovative Archives**
  - How can we preserve the rich record of contemporary discourse and activity?
  - How can we preserve our research and share it on the web?

How can data literacy be taught across the disciplines?
Wellness

Core themes:

• **Predictive analytics for better health:**
  • Developing precision health tools that can predict health and disease and optimize intervention by analyzing health data using platforms in “omics” and machine learning

• **Life cycle:**
  • Aging in place
  • Healthy aging
Wellness

Core themes:

• Health promotion
  • Disease prevention and management
  • Health promotion

• Mental health and neuroscience

• Knowledge translation
Nanoscience and Nanotechnology

Core themes:

• Nanotechnology design, fabrication and application
  • U of A is nationally recognized for leading-edge nanofabrication
• Biomedical devices
• Quantum nanoscience
• Nanosensor development (cross-cutting applications)
  • Applications in space science (nanosatellites), precision health, biomedical engineering, manufacturing, energy, and multiple others
Questions to consider

• What is the appropriate scope (depth and breadth) for Signature Areas Scope?

• How to reflect focused pillars of excellence while embracing inclusive themes that facilitate new collaboration?

• Are there any major gaps or key areas that have not been considered?

• How should we engage: proponents, stakeholders, the community in general?
Next steps

- Members of the university community are invited to come forward as potential collaborators, participants
  
  signature.areas@ualberta.ca

- The SADP will develop an engagement process for each theme – each process may be different in scope, timing

- Potential themes will be evaluated against the 12 criteria

- Formal announcement of initial Signature Areas is planned for summer 2017

- Areas not selected through this process can continue to develop and be designated as Signature Areas in future
Campus Forum
March 23, 2017

David Turpin
President

Steven Dew
Provost and Vice-President (Academic)
SADP Co-chair

Lorne Babiuk
Vice-President (Research)
SADP Co-Chair
Criteria for identifying Signature Areas:

- National and international stature for excellence, relevance, and impact
- Critical mass—opportunity for broad, interdisciplinary engagement
- Grassroots leadership, participation, and support from within our university community
- Stakeholder partnerships
- Research partners (international, community, government, industry)
- Capacity to shape and align with federal and provincial research funding priorities
- Student demand
- Physical and operational capacity
- Geographic or situational relevance