

Cultivating & Promoting Future Leaders

WHY: The role & scope of the Roadmap

- Because mentoring is beneficial
 - Thousands of research publications serve as evidence for importance of and effects of mentorship
 - Positively affects satisfaction, persistence, advancement, salary, and a sense of belonging
- Because organizations need a pipeline full of diverse talent to equip them for a diverse future set of leaders
- Because leadership is a learned behaviour
 - You have to learn from experience, and the earlier you start the better the training will be

Cultivating & Promoting Future Leaders

WHAT: The priorities & objectives

- Increase the sense of belonging of women in STEM
- Exposing boys early to successful women in STEM will dilute biases in time
- Increase the number of same sex mentors for women
 - Decrease potential implicit attitudes
- Address diversity in the context of the organization objectives
 - This will increase buy-in from senior leaders
 - Begin conversation acknowledging own bias
- Provide leadership training earlier
 - Managers first get leadership training at age 42 – way too late
- Better sensitize potential role models on the importance to act as catalysts

Cultivating & Promoting Future Leaders

HOW: The achievable actions & measures

- By having mentoring/coaching circles
 - Small group discussions on issues of concerns
Group problem solving
- Promote employee-led initiatives as well as insight groups to provide recommendations to management
- Partner with organizations that have expertise in expanding opportunities for women
- Leadership starts early: focus efforts on youth as well as parents and teachers
- Be sensitive to differences in perceptions
 - Girls are more influenced by parents and teachers; boys are more influenced by non STEM role models

Cultivating & Promoting Future Leaders

WHO: The actors & problem 'owners'

- Managers are responsible for creating an environment for their team members to thrive
 - Communications, empowerment
 - Set the tone, provide... leadership
- Mentors held accountable for the success of their mentee
 - 50:50 accountability
 - Acknowledging mismatches and tailoring relationships for success
- Influencers are varied
 - Family, role models, teachers, friends
- We are all role models!

Cultivating & Promoting Future Leaders

WHERE: Key implementation steps & path

- Highly collective and multi-faceted issues
 - Holistic approach, systems approach
- Furthering connections, establishing partnerships
- Provide a collective framework on which we can build diverse initiatives
- Share information at Gender Summits, but also at other venues, conference, board meetings, etc.
- Change culture, make commitments and make gender considerations part of our DNA (as was mentioned yesterday)

Empowering Voices of Early-Career Scientists

WHY: The role & scope of the Roadmap

- Decisions made in early career have huge consequences for future career success/retention
- still learning the scientific landscape and function of science systems, yet they are often in the middle of their life!
- This stage is essential to effective career development & planning

Empowering Voices of Early-Career Scientists

WHAT: The priorities & objectives

- Adopt policies that ensure that science is an attractive and viable long term career option; consider special circumstances women face (i.e., family building years, discrimination)
- Improve institutional and funding support for women at vulnerable career stages (e.g., postdoctoral years, pre-tenure period)
- Target issues that are particularly important at determining the outcome of the early career stage (i.e., work life balance, dual career couples, new faculty support systems)

Empowering Voices of Early-Career Scientists

HOW: The achievable actions & measures

- SHORT TERM
- collect better statistics on people in early career stages – **especially postdocs**
- identify and implement opportunities for & information on networking, mentorship for early career individuals (e.g., institutions/funding bodies intentionally support networking and mentorship)
- funding programs that better facilitate career (and life) transitions (e.g., parental leave, benefits, stopping the tenure clock)

Empowering Voices of Early-Career Scientists

WHO: The actors & problem 'owners'

- Female scientists and their families
- Male scientists and their families (!)
- Institutions
- Science itself
- Society

Empowering Voices of Early-Career Scientists

WHERE: Key implementation steps & path

- LONG TERM
- Improve structural support for trainees who choose career paths outside of academia
- Better alignment of career/funding incentives (faculty vs. universities vs. funding bodies vs. students/trainees)
- Improve the disconnect between the team driven nature of STEM vs. the individual incentives
- Better recognition of non-traditional types of service (incentivize and legitimize time spent mentoring)

Integrating Gender into Research Content & Methods

WHY: The role & scope of the Roadmap

- Sex and gender bias in research:
 - Is expensive in terms of lives, costs, and pain
 - Limits scientific creativity, excellence and benefits to society
 - Sometimes ignores gender similarities
- Meritocracy limits gender equity: need to reduce the “merit gap” between men and women academics, especially in STEM faculty
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Integrating Gender into Research Content & Methods

WHAT: The priorities & objectives

- Integrate sex/gender analysis into each step of the scientific process
- Analyze why in meritocratic systems, women academics as a group and individually, are judged less able, less deserving and less valuable
- Understand gender differences and similarities in healthcare

Integrating Gender into Research Content & Methods

HOW: The achievable actions & measures

- Consider, analyze, and report sex in research studies (including stem cells)
- Report null findings in sex differences (similarities are OK to report!)
- Integrate gender studies into the engineering curriculum
- Eliminate competing victim discourse in health sphere
- Bring current generation of researchers up-to-date in methods of sex/gender analysis

Integrating Gender into Research Content & Methods

WHO: The actors & problem 'owners'

1. Granting Agencies
2. Hiring and Promotion Committees
3. Editorial Boards of Peer-Reviewed Journals
4. Industry
5. Teachers
6. Researchers
7. Students
8. Health System
9. Universities
10. Policy Makers

Integrating Gender into Research Content & Methods

WHERE: Key implementation steps & path

- **Funding agencies** can ask applicants to explain how sex and gender analysis is relevant their proposed research
- Adopt the concept of merit related to opportunity; prepare guidelines on this concept for **evaluation committees**
- **Publication editors** can require sex and gender analysis when selecting papers
- **Teachers** can integrate the results of gendered innovations into the curriculum
- **Researchers** can conduct in-depth studies that incorporate gender issues
- **Industry** can create products and systems that incorporate the smartest aspects of gender can stimulate new markets, global competitiveness, and sustainability

Improving Career-Life Balance

WHY: The role & scope of the Roadmap

- **Policies & Advocacy:** We need guidance for institutions, e.g. how to recognize and tackle common obstacles, policy-oriented advocacy
- **Opting out:** We need to recognize that when women not taking tenure-track positions (opting out, especially when they had originally planned for an academic career as a graduate student), they are missing out on being on the cusp of scientific research, and we miss their scientific contributions.
- **Career Path:** We need to re-invent professional career path, consider erasing the lock-step of the tenure-track, consider mainstreaming flexibility
- **Long-term approach:** We need to recognize that issues change throughout the career, life-balance issues are not static, therefore , it will be important to institute a “Pathway Systemic Approach.”
- **Model:** We need to have a international model that can be shared.

Improving Career-Life Balance

WHAT: The priorities & objectives

- **Support career development decisions at all ages and stages:** Develop and implement policies that will support women at various stages throughout the career path. Understand the issues at every level (e.g., early career, mid-career, late career), prepare women successfully, involve other experts/partners, appropriate funding and staff, recognition of life issues that take time away from the career in addition to or other than childcare (e.g., religion, health).
- **Support for postdocs and early career stages:** Pay attention to Postdocs trainee vs employee status to give postdocs benefits. Look at different constructs in various countries.
- **Provision of Childcare:** Professional associations can take include childcare at professional meetings (funding from foundations, agencies); Examine legal ramifications, but look at lessons from Canada, and other models.
- **Dual Career:** Nationalize the initiative, de-silo the procedures, give attention to trailing spouses at different levels (even outside of the tenure stream)
- **Advocates:** Be sure that there are role models, mentors, coaches, champions, and sponsors in place.

Improving Career-Life Balance

HOW: The achievable actions & measures

- Compliance with Title IX & gender equality legislations
- Re-entry re-training post doc programs
- Family friendly policies within institutions
- Paid maternal/paternal leave
- **Examples:** Post-Doc Institute (UIC); Active Service Modified Service (UC System); Agency-wide initiatives (NSF); Use of chaired positions in national organizations to institute women-centered initiatives (Canada); Programs from some ADVANCE initiatives that include elder care (which may rival childcare), includes issues of “sandwiching” and other issues that occur throughout the pathway.

Improving Career-Life Balance

WHO: The actors & problem 'owners'

- Universities & Schools
- Federal and International agencies
- Research funders
- Industry
- Families/society

Improving Career-Life Balance

WHERE: Key implementation steps & path

- Universities improve career support for pre/during post doc period women
- Research funders create re-training/re-entry research based schemes
- Research funders provide childcare/parenting supplementary grants
- Industry provides opportunities for acquiring career-enhancing technical competencies
- Policy makers recognize the need for creating social structures

Creating and Sustaining Networks

WHY: The role & scope of the Roadmap

- Networking is important for professional development and effectiveness.
- Networking promotes diversity and enhances research productivity.
- Networking builds social capital and provides access to tacit knowledge.
- Networking is important for implementation of diversity objectives in research and innovation policies.
- The value of networking is proven for both institutions and individuals; the challenge is to capture these values effectively.

Creating and Sustaining Networks

WHAT: The priorities & objectives

- Which networking strategies are effective in a given context? How can we make networking opportunities more valuable for individuals and organizations? What do we know about the interplay of networking and efforts to advance women?
- How can we broaden adoption of networking as a professional development practice? How can we institutionalize networking as an effective strategy for supporting diversity?
- How can we enhance organizational support for networking as a method to advance organizational aims?

Creating and Sustaining Networks

HOW: The achievable actions & measures

- Survey networking approaches among communities of practice and disseminate findings.
- Research what works to create and sustain networks, and identify best practices.
- Address the reluctance to network of some professionals, especially young professionals.
- Adopt networking as standard practice among stakeholders.
- Include diversity in university rankings.
- Highlight available tools and knowledge, for instance to enable collaborations.

Creating and Sustaining Networks

WHO: The actors & problem 'owners'

- Actively pursue networking as a career development strategy - Individual professionals and trainees
- Enable networking of community members (employees, executives, students, faculty, and administrators) through training and policies, and collect data on involvement in networks - Educational and research institutions, Professional communities such as societies and associations, and Industry and business communities
- Provide incentives through policy-making that promote networking among funded institutions, collect data on the networking practices within communities, and promote research into what works - Government, especially funding agencies

Creating and Sustaining Networks

WHERE: Key implementation steps & path

- Mandate data collection on best practices in context by relevant stakeholders. For example, funding agencies should coordinate data collection from institutions and promote best practice through funding policy.
- Experiment with new networking strategies to diversify the membership of networks and create bridges between different generations, and their networking approaches.
- Transition social science research into practice.
- Frame issues so that the senior leadership of organizations can understand diversity issues. Build awareness of what it means to be inclusive. Most people want there to be in a meritocracy, so show them where implicit biases are and help them to address them.

Transforming the Role of Gender in STEM & in Communication

WHY: The role & scope of the Roadmap

- Women face gender bias in the workplace
- Women are chronically under-represented in media industries
- Under-representation reinforces negative perceptions

Transforming the Role of Gender in STEM & in Communication

WHAT: The priorities & objectives

- Document the extent of under-representation
- Identify the intricacies of gender biases
- Understand how social context influences interactions
- Identify the psychological aspects of these interactions
- Understand the differences in communication styles that exist between men and women

Transforming the Role of Gender in STEM & in Communication

HOW: The achievable actions & measures

- Role models change stereotypes
- Create threat free environments
- Foster community and belonging
- Increase awareness and education
- Provide training in recognizing and minimizing cues to threat
- Accountability

Transforming the Role of Gender in STEM & in Communication

WHO: The actors & problem 'owners'

- All of us - women and men
- Media industries
- Academia
- Industry
- Societies

Transforming the Role of Gender in STEM & in Communication

WHERE: Key implementation steps & path

- Everywhere!

Ensuring Inclusive Excellence through Merit/Peer Review

WHY: The role & scope of the Roadmap

Ensuring Inclusive Excellence through Merit/Peer Review

WHAT: The priorities & objectives

- understand the extent and nature of bias in peer review
- where present, mitigate biases

Ensuring Inclusive Excellence through Merit/Peer Review

HOW: The achievable actions & measures

- institute common practices and guidelines within and across institutions
- institute checks and balances to enable compensation for biases
- provide reviewers with training so they can identify bias
- where gender is a significant component in the topic of the research, ensure that gender is appropriately incorporated in the methodology
- collect data to monitor outcomes and detect bias

Ensuring Inclusive Excellence through Merit/Peer Review

WHO: The actors & problem 'owners'

- funding agencies
- review panels and committees
- peer reviewers (for grants, publications, etc)
- tenure and promotion committees

Ensuring Inclusive Excellence through Merit/Peer Review

WHERE: Key implementation steps & path

- arrange a consultation session at the next Gender Summit where funding agencies present data, describe their bias-mitigating processes & invite feedback and advice
- explore means for increasing centralizing access to data from multiple agencies and countries
- examine the state of research on relevant topics and the opportunities for support of such research
- develop a strategic roadmap for such research

ENABLING ORGANIZATIONAL SYSTEMS & PROCESSES

Road mapping Session #8

Enabling Organizational Systems & Processes

WHY: The role & scope of the Roadmap

- Amount of public resources invested in STEM research & education
- Visible and invisible discrimination/bias
- Lack of transparency in institutional processes
- Persistence of low representation of women in Engineering & Physical Sciences, while other fields have shown progress
- Social justice

Enabling Organizational Systems & Processes

WHAT: The priorities & objectives

- Increase representation in STEM, especially leadership
- Allow women to maintain identity in STEM
- Enhance climate, opportunities, credit, advancement for women
- Revisit and broaden definitions of research and service to allow recognition of a diversity of approaches
- Recognize the merit of broadening participation activities- end siloing of research, teaching & service
- Enable and educate about flexible career paths
- Enhance funding opportunities for women, overall!

Enabling Organizational Systems & Processes

HOW: The achievable actions & measures

- Both internally and externally driven approaches
 - Integrate & empower women into traditional STEM culture **and**
 - Enable other, more open models, using outside communities
- Legal & political alternatives [Title IX compliance]
- Develop broader language in guidelines around promotion and tenure to support more flexible career paths & scholarly/service activities
- Awards & rewards for mentorship, role modeling & excellence in service
- Academic administrators should look to broader models (federal, industry, EU...) for career path flexibility models
- Look to EU models for funding requiring accountability and allowing for support (i.e. funding includes daycare \$??)
- More women reviewing research proposals ?
- Reward early adopters who advance cultural/institutional change

Enabling Organizational Systems & Processes

WHO: The actors & problem 'owners'

- People at the top of organizations
- Leads at every hierarchical level
- Educational institutions
- Educators
- Strong role model women (Nancy Hopkins!)
- Men in STEM
- People with power + people with knowledge

Enabling Organizational Systems & Processes

WHERE: Key implementation steps & path

- Academic departments
- Academic & Agency administrations, gatekeepers
- Organizational reviews
- Leadership reviews
- Policy reviews
- Hiring, recruiting & admission processes
 - Measure and continual reporting and improvement
- Keep foot on accelerator, or we'll move backwards (everywhere!)

SESSION NO 9: PIONEERS TRAILBLAZING THE FUTURE

Chair: Kelly Mack, Vice-President for Undergraduate Science Education and Executive Director, Project Kaleidoscope, Association of American Colleges and Universities, (AAC&U)

Rapporteur: Rosemarie Filart, Medical Officer, Office of Research on Women's Health, National Institutes of Health Sciences

Time: 1-2:30pm
November 14, 2013
Gender Summit – North America
Washington, DC

Panelists

- **Catherine E. Woteki**, Under Secretary, Chief Scientist, United States Department of Agriculture, USA, *Open Science for Agriculture and Nutrition*
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- **Margaret-Ann Armour**, PhD, Associate Dean (Diversity), Faculty of Science, University of Alberta, Canada, *WISEST—Women in Scholarship, Engineering, Science and Technology*
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- **Vera Regitz-Zagrosek**, MD, Director, Institute of Gender in Medicine, Charité - Universitätsmedizin Berlin, Germany, Europe, *Establishing the First Gender in Medicine Institute*
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- **Mayra de la Torre**, PhD, Full Professor, Department of Food Sciences, the Centro de Investigacion en Alimentacion y Desarrollo A.C. in Sonora, Mexico - *Creating the Organization for Women in Science for the Developing World (OWSD)*

Pioneers Trailblazing the Future

WHY: The role & scope of the Roadmap

- Need to improve the welfare of *all* communities, populations
- Biases against gender/sex in the educational and workforce pipeline limit potential for excellence
 - Economic gaps in gender/sex within the workforce
 - Workforce inequalities among cultural, ethnic, and LGBT communities

Pioneers Trailblazing the Future

WHAT: The priorities & objectives

- Enhance research resources to open science globally
- Workforce development
- Intercultural Dialogue

Pioneers Trailblazing the Future

HOW: the achievable actions & measures

- Open access of science and data
 - Networking, collaboration
 - Improve technology transfer through education of stakeholders
 - Access to scholarly publications
 - Worldwide statistics
- Funding of scholarship/grant programs to recruit, encourage, and sustain women in the educational and workforce pipeline
- Formal and informal mentorship
 - Finding supportive communities to grow and retain the workforce
- Change culture of the STEM disciplines
 - Recognize gender/sex biases and avoid stereotyping
 - Attention to disparities in cultural, ethnic, and LGBT communities

Pioneers Trailblazing the Future

WHO: The actors & problem 'owners'

- Supportive Communities
- Developers and implementers of educational programs
 - Communities
 - Academia
 - Private Entities
 - Government
- Policy makers
- Federal Agencies
- Scientists/researchers

Creating Bridges with European Funders

WHY: The role & scope of the Roadmap

- Increase excellence in research by improving women's participation, fostering gender equality (gender balance, mitigating unconscious bias) and the integration of the gender dimension in funded research
- Share best practices and collaborate to reach goals collectively

Creating Bridges with European Funders

WHAT: The priorities & objectives

- Remove gender bias in research funding (applicants, peer-review, gender equality)
- Publish indicators of presence of women (e.g. % women grade A researchers)
- Write in the calls how to integrate sex and gender analysis in research contents

Creating Bridges with European Funders

HOW: The achievable actions & measures

- Publish statistics
- H2020 (calls for proposals, SWafS-EURAXESS)
- EU innovation Union Scoreboard (% women in Grade A)
- Science Europe (Working Group on Gender & Diversity)
- Global Research Council recommendations
- Gender Summits roadmap
- EC structural change report & NSF-ADVANCE experience
- « soft push » measures from funders (mentioning gender)
- Guidelines, toolbox (standards) for HEI & RO
- Trainings for applicants, for peer-reviewers
- Dedicated WG in each RFO, monitoring
- EU Charter/Code for Researchers (Concordat/Vitae in UK)
- Reward HEI & RO implementing GAPs (e.g. Athena SWAN, KIF-Committee Award) or make it a requirement (NIHR UK)
- Mock panels
- EU expert database

Creating Bridges with European Funders

WHO: The actors & problem 'owners'

- National research funding organizations
- European Commission
- ERC
- ERA-related groups
- Science Europe (RFO & RPO)
- GENDER-NET ERA-NET
- genderSTE COST targeted network
- Global Research Council
- National Academies and Inter-Academy organisations
- HEI & ROs

Creating Bridges with European Funders

WHERE: Key implementation steps & path

- Statements on gender equality and gender dimension
- Define and implement a gender action plan
- Gender balance on peer-review panels
- Training of panel members on unconscious bias and on sex & gender analysis of research projects
- Monitoring