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Research Synthesis 3

Institutional Practices and Processes

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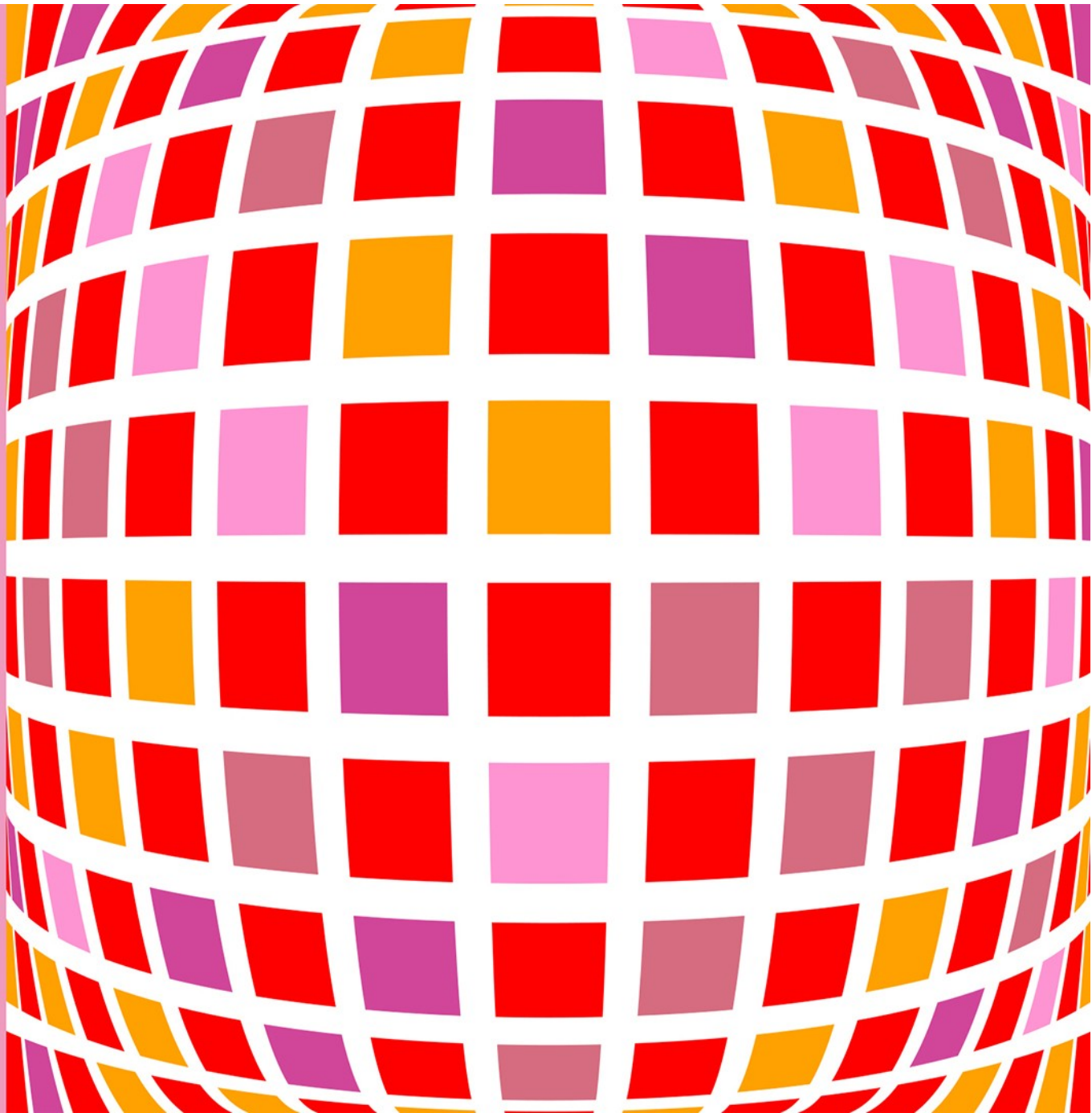

Description of the Problem

Initiatives to promote gender equality in research have been carried out for years in Europe, the U.S. and some other countries. The initial focus of these was on specific programmes to help women pursue scientific careers, yet these have not sufficiently increased the number of women in science, particularly in positions of responsibility (EC 2012). Apparently, the initiatives did not impact on the institutional obstacles and cultural bias hindering women's full participation in academic careers. The recognition of the inherent limits of initiatives targeting the individual scientist led to a different focus that aimed to achieve structural transformation at the institutional level. Structural change has been defined as:

> Structural change' in universities and research institutions means making them more gender aware thereby modernising their organisational culture. This has important implications for equal opportunities, full use of talent, appeal of scientific career, and quality of scientific research. It implies systemic integrated long term approaches rather than piecemeal short-term measures. (EC, 2012:15)

In the U.S., the ADVANCE programme funded by the National Science Foundation (NSF) spurred the way through it's Institutional Transformation Programme. In Europe, the European Commission published the landmark "Structural Change in Research Institutions" 2012 report and funded a raft of projects charged with implementing institutional change in research institutions (INTEGER; GenisLab; GENOVATE; STAGES; TRIGGER; FESTA among others). Horizon 2020, the current major research funding programme of the European Commission, includes specific calls for implementing institutional change in Research Funding Organisations (RFOs) and Research Performing Organisations (RPOs).

Three essential elements to achieve institutional change have been identified (EC, 2012):

1) Knowing the institution – this means collecting base-line data at the institutional level in order to inform an institutionally tailored, evidence-based strategy of change.

2) Securing top-level support has been signalled as a crucial component of effective institutional change: without top-management commitment, institutional change strategies can get lost and implementation will not happen, be circumvented or resisted.

3) Generating effective management practices means raising awareness of key decision-makers and human resource managers to unconscious bias and drawing on gender expertise.

Evaluations and research findings that examine these institutional change experiences are just beginning to be published in Europe – it is therefore an exciting time to examine recently identified impacts. This research synthesis aims to assess the progress made so far by highlighting empirically tested strategies for institutional change. It covers the key components of institutional change: engagement of decision-makers, organisational change, career progression and work-life balance as well as departmental climate. The institutional change approach also includes gender in research contents, which is treated in the Research Synthesis 4, "Gender in Research Content and Knowledge Production".

"Key components of institutional change include: engagement of decision makers, organisational change, career progression, work-life balance and departmental climate."

Recent Insights from Research

Levels of Governance

In order to achieve institutional change in research institutions different tools have been used and combined. The implementation of gender equality plans seems to be one of the most common approaches. Regulation of these plans takes different forms according to the national legislative framework. For example in Austria, Spain and Norway legal provisions are in place to encourage or oblige universities to develop equality plans, whilst in Denmark, Iceland, Finland and Sweden workplaces over a given size are legally obliged to draw up gender plans (cf. Bergman/ Rustad, 2013:25 cited in Lipinsky 2014). In other countries (BE, CH, HR, DE, EE, RO, TR, UK), gender equality plans are not mandatory, but a legal basis or other rules exist for their development. Sometimes gender action plans are used without an explicit requirement and other tools are in place to encourage institutional change. For example in Norway, the Ministry of Education and Research established a Gender Equality Award for well-performing institutions (Lipinsky, 2014).

Engagement of Decision-Makers

Engaging top-level decision-makers in institutional change proves to be very effective. It has two main objectives. Firstly, it attempts to ensure the effective implementation of gender equality plans and subsequent policies through fostering an institutional commitment. Secondly, it is linked to the raising of awareness and challenging implicit bias of key decision-makers, which is seen to have an important effect on management practices. Top-level support for gender policy in research institutions has been identified as a key component of any change strategy. In the U.S. it has been advocated by the ADVANCE programme and in Europe through the Position Paper of the Helsinki Group (EC, 2012). It has been recommended that gender policy be formulated in an organisational unit which is closely and permanently related to the governing body of the research and higher education institution, i.e. university president, rector, and/or vice-chancellor (ibid). This approach attempts to align gender policy alongside institutional power structures in order to ensure successful implementation. Institutional change in universities in Europe has taken this approach. For example, the President of the CNRS in France publicly expressed his commitment to gender equality and women's full participation in research as well as identifying gender research as an "institutional and scientific priority" (Pepín et al, 2014). The Athena Swan evaluation also recognised "the involvement of senior committed individuals who exert influence and are visible role models" – as a facilitating factor for delivering institutional change (Munir et al, 2013). This approach also attempts to overcome the 'resistance' that has been demonstrated at the institutional level–which has been identified as one of the most insidious obstacles to the successful implementation of gender equality plans (Genova et al, 2014). Ensuring departmental chairs' engagement has also been identified as crucial as they have the power to frame gender issues at the departmental level as well as being key change agents across the institution by working to generate awareness of policies (Wharton & Estevez, 2014).

"Engaging top-level decision-makers in institutional change initiatives is key for ensuring effective implementation and challenging implicit bias."

Explicit attention has been paid to how informal sources of bias affect management practices through key decision-makers' evaluations throughout the following

processes: hiring, granting awards, writing recommendations letters as well as advancement. An underlying premise of some of the innovative work carried out in this field is that we all hold bias, but we can work actively to neutralise it. In the ADVANCE IT programmes:

> Educational efforts about implicit bias and how to detect and combat it in evaluating faculty were targeted at various groups of influential faculty such as deans, chairs and heads, and faculty members of committees involved in hiring new faculty or selecting faculty for institutional awards. In a few cases, tenure and promotion committees were explicitly targeted. (Laursen & Austin, 2014b:3)

Education and/ or training for human resource managers and those that take part in the search process to guarantee procedural equity and reducing bias in evaluating applicants has been identified as impacting on increased job offers for women. For example, Fine at al (2014) report how workshops for faculty search committees were held to help universities recruit excellent and diverse faculty. This was done by familiarising faculty with research on unconscious bias in evaluating job candidates whilst recommending evidence-based strategies for minimising this bias. Research findings included an increased awareness of the role that bias can play in the evaluation of faculty applicants and strategies to reduce this bias. They also found that in departments where women were under-represented, participating in these workshops could be linked to "a significant increase in the odds of making job offer to a woman candidate, and with a non-significant increase in the odds of hiring a women" (Fine et al, 2014: 268).

Organisational Structure: A push for greater transparency and accountability

The first step for any institutional change programme is to know the organisation. This means collecting base-line data at the institutional level in order to inform an institutionally tailored, evidence-based strategy of change whilst also facilitating the monitoring and effective evaluation of this transformation. There are many tools that can be used: for example the Participatory Gender Audit (PGA) developed by the International Labour Organization (ILO) was used in the Genis-Lab project. The PGA is a data collection process co-ordinated by a Gender Audit Facilitator Team which includes direct observation and close interaction with the institution's staff. The outcome of the process involves a collectively agreed report which describes the capacity of an organization to promote and sustain gender equality in its day-to-day

operations as well as identifying the main gaps to be addressed (Genova et al 2014; 32). The impacts of these data gathering experiences as a way to really pinpoint avenues for change is encouraging. As Munir et al (2014:8) report, the data-collection process that took place in preparation for a submission to the Athena Swan scheme enabled the participating institutions to identify crucial gender equality challenges in their departments.

A basic lack of accountability has been identified as posing a serious threat to the sustainability and consistency of institutional change strategies (Laursen & Austin, 2014c; GenSET, 2010). Within institutional change programmes accountability has increasingly been seen as an essential element – that not only promotes transparency of the process but also impacts on other types of interventions such as mentoring or better recruitment among others (ibid.). Accountability in this context is concerned with those processes and functions at the institutional level that assign and publicize responsibility for actions, policies, and the monitoring of gender equality. It is also important that the role of ensuring compliance is designated to someone who has the power to apply appropriate consequences. ADVANCE IT projects which have focused on accountability structures have created new administrative positions to oversee equity issues, or assigned specific oversight and reporting functions to existing roles. The identified benefits have included: “sending a clear message that diversity was valued and taken seriously by upper administration”; raising awareness of these to institutional leaders and key stakeholders was also linked to fostering responsibility for progress; as well as improving workplace climate and retention (Laursen & Austin, 2014c:3).

In the European context, gender budgeting has been developed in a push for a greater transparency in the allocation of resources (time, space, financial) in the academic environment.

> Gender budgeting is an application of gender mainstreaming in the budgetary process. It means a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process and restructuring revenues and expenditures in order to promote gender equality. (Council of Europe, 2005:10)

Implementation processes in the scientific context have shown the difficulties of gaining the data, specifically on time and space allocation, but have also highlighted how this process leads to not only a greater transparency of resource allocation for all, but to increased awareness of the effects of bias.

Career Progression (Recruitment, Promotion and Retention)

Institutions that employ researchers must comply with EU and national legislation on anti-discrimination and equality treatment (Lipinsky, 2014:9). Gender equality plans, charters or concordats establish principles that the organisation must comply with. The general aim of the latter is to make 'existing career thresholds and procedures' more transparent and gender aware (ibid). Interventions have been carried out to "increase diversity in recruiting and hiring new faculty" through diversifying the pool of applicants, ensuring fairness in evaluating applicants as well as meeting diverse needs of potential recruitees. Institutional interventions in recruitment as well as tenure and promotion tend to fall into two categories: the first is educational – where training is carried out to raise awareness of unconscious bias (see section 'Engaging Decision-Makers); and the second is in creating more formal structures and processes for hiring: these included providing incentives to improve attention to diversity at various stages of a search process.

One innovative approach included a university developing a "2 for 1 hiring practice" – whereby "a committee could request to hire two candidates rather than one if both candidates would enhance the department's diversity" (Laursen & Austin, 2014a:3). Other institutions requested that departments collect demographic information about search processes if they were to be eligible for special funding opportunities' (ibid). Evaluations of this type of initiatives have shown how the greatest growth in the net percentage of women faculty was observed in smaller institutions – in economically favourable climate. For example New Mexico State "was able to double its hiring of female tenure-track faculty in STEM from 17% to 35% over 7 years, creating a net increase in STEM female faculty of over 40%" (Laursen & Austin, 2014a:7). Attention to hiring practices must also be accompanied by a push towards "formal mechanisms for the evaluation and retention of faculty. Tenure and promotion processes are crucial in maintaining the intellectual excellence, creativity and scholarly reputation of the faculty" (Laursen & Austin, 2014c:1). Interventions in this field tend to focus on increasing the transparency of the advancement processes coupled with informing all participants about formal promotion and tenure review process and criteria (ibid). In the U.K. those HEIs that have signed up to the Athena Swan charter have provided training and mentoring to prepare women for promotion. The evaluation of the charter recognises how female staff have been encouraged to apply for promotion. Structural initiatives developed for tenure and promotion processes in the ADVANCE IT programme included creating a new office of Faculty career Development Services

which processes all personnel for academic faculty (this included appointments, promotions, tenure, post tenure reviews, leaves of absence and salary adjustment) in order to centralise activities and reduce disparities between colleges. Another innovative approach was to create a position of ombudsperson in each college to participate (non-voting) in each promotion and tenure committee (Laursen & Austin, 2014c:3). Research has also charted how minimal gender differences in promotion could be encouraged by having more than one pathway to promotion for full professor, for example one pathway requires meeting standards of excellence in teaching, scholarship and administration, the other requires exemplary teaching and administration (White Beheide & Walzer, 2014).

The benefits of these types of approaches are that policies reduce the impact of unfair informal processes for everyone whilst demonstrating that inequality is being tackled at the institutional level.

Career-life Balance

There are three main types of institutional change strategies that aim to make the scientific career and workplace more accessible to those with responsibilities and interests that lie beyond the academic sphere. The first institutional change strategy aims to challenge the rigid 'out-dated' scientific career trajectory and covers those "stop the clock or tenure clock extensions, policies for active service / modified duties and part-time tenure track options" (Austin & Laursen, 2014a). Despite the existence of stopping the clock or tenure clock extensions, research has shown that their limitations may lie in their lack of use due to fear it may show a lack of professional commitment (ibid; Wharton & Estevez, 2014). There is a need to 'normalise' the uptake of these types of policies.

The second institutional change strategy deals with interventions to facilitate a greater work-life balance by providing practical family-friendly accommodations (Austin & Laursen, 2014b). A majority of ADVANCE IT institutions included practical family-friendly accommodations within their portfolios of interventions to support the recruitment and success of STEM women faculty. These included: grants to help faculty members continue their scholarly work during periods of major transition; opportunities for family related leaves; support and facilities for nursing mothers, and child care resources. The wide range of benefits of this type of policies included improving the retention of young faculty by offering practical support at a key time

when multiple (professional and personal) demands are made – thus positively impacting on motivation, institutional commitment and enhanced productivity (ibid). At the level of the institution, research has also demonstrated that these kind of policies are becoming increasingly important in the quest to attract talent.

The third institutional change strategy deals with dual career strategies: this type of policy intervention has recently received an increasing attention. Over 70% of academics have partners who are employed - half of whom are academics as well. Academic women are also more likely than men to have academic partners (Laursen & Austin, 2014d). This raft of policies attempt to attract talented couples to the institution in three main ways: institutionalisation of dual career formal policies; providing partners with assistance in finding a suitable position in the campus or community – through increasing links with potential employers; and provision of informal assistance during the recruitment process (Laursen & Austin, 2014d). Evaluation of these types of policies have highlighted an increased awareness and use of the policy – one university revised its dual career policy and subsequently reported 39 recruitment and 18 retention cases over the life of the ADVANCE grant (ibid).

Departmental Climate

The departmental level has been identified as a key in fostering women's presence and career development in academia (Bilimoria et al 2008). Research has also demonstrated that department climate is a strong predictor of perceptions of promotion to full professor – working in a stimulating collegial department positively impacted on perceived chances for promotion (Fox & Xiao, 2013). Most initiatives that attempt to foster change at the departmental level attempt to improve communication and encourage a greater level of collegiality (Etzkowitz 2000). For example Latimer et al (2014) found measurable improvements using "dialogical change" to promote positive departmental climates.

Evidence of positive change particularly in departmental climate has been provided by the evaluation of the Athena Swan initiative. Academic and research staff reported that Athena Swan had a greater impact on the work environment and work practices in departments with awards (bronze or silver) than in institutions that had a bronze award, but no departmental award (Munir et al 2014:10). Staff in all Athena SWAN

categories also rated their department higher than staff in no award departments for promoting a health work-life balance (ibid).

Implications for Policy

Change invariably takes time. For example in the Participatory Gender Audit carried out in six scientific institutions throughout Europe, expectations were raised as a direct result of the audit, but a long time was needed to see the effects of change. This indicates a real need to build into this process capacity building activities to foster momentum but at the same time keep expectations for institutional change realistic (Genova et al, 2014).

Academic systems that are actively promoting the modernisation of human resources and organisational development through equality plans is on the increase (Lipinsky, 2013: 18). The ERA Facts and Figures (2014) report shows significant correlations between measures taken at Research performing organizations (RPOs) level, including gender equality plans, and the existence of national laws, strategies and/or incentives to foster institutional change (Lipinsky, 2013, ERA Facts and Figures, 2014). This shows how regulatory initiatives play an important role in creating institutional incentives for change and points to the importance of ensuring that the institutional change agenda is sufficiently embedded within the regulatory system.

The ERA facts and figures report also highlights the wide differences among countries and concludes that there is a need for more joined efforts and systemic strategy aiming at longer-term institutional change in the European research system.

Global Perspectives – A Commentary

For the second and final update of each thematic Research Synthesis, GenPORT requested and incorported comments of experts from outside Europe. The following reflections on the current situation in the United States of America concerning Institutional Practices and Processes have been kindly provided by Sandra Laursen (University of Colorado Boulder).

Research-based Strategies for Systemic Institutional Change to Enhance Equity by *Sandra Laursen*

Supporting women scientists as individuals is not enough to reach gender equality in our scientific institutions. What is required is system-level attention to the structures, practices and cultures of these institutions and how they may perpetuate inequality, even unwittingly. Changing these systems and structures is challenging, so it is helpful to have advice about how to go about such changes, as summarized in the GenPORT Research Synthesis 3 on Institutional Practices and Processes, led by Rachel Palmén and Alexandra Bitusikova.

In our own effort to learn more about how to accomplish such systemic change, I and my colleague Ann E. Austin (Michigan State) have studied the experience of US institutions of higher education that are part of ADVANCE. This program, funded by the US National Science Foundation, has supported universities to carry out "institutional transformation" (IT) projects to strengthen gender equity among faculties of science, technology, engineering and mathematics (STEM) fields. Our six-year (2010-15) collaborative study has examined the work of ADVANCE IT universities that have tackled these problems in a systemic fashion.

Each ADVANCE IT project has implemented a set of coordinated change interventions that work at multiple levels and in multiple areas of the institution. Many projects do include faculty-targeted interventions that support women to develop their research careers and to carry them out with good personal, collegial and institutional support. But they also incorporate system-directed efforts to improve hiring, promotion and advancement procedures identify and change policies that support

career flexibility educate institutional leaders about issues that affect women's inclusion and success, and raise the visibility of women STEM scholars.

Our research team studied approaches to organizational change taken by pioneering ADVANCE IT grantees, asking:

- What strategies have been used to create institutional environments that encourage the success of women scholars?
- Which strategies work and which don't? Why?
- What strategies should be included in a change plan?

Our research shows that, while these multi-faceted projects are indeed challenging to design, implement and manage, they are gaining ground, both in improving conditions at the institutions themselves, and in helping all of us understand better how to undertake this complex work.

A key finding from our research is the importance of institutional context in these projects at all stages. Context shapes the particular and local ways in which gender inequity presents itself, the particular solutions that fit the institution, and the particular ways of implementing them. For example, one university may have difficulty hiring women faculty in STEM fields, while another one may be successful at hiring but does not retain them over time. Attracting a woman to accept an academic post may be much harder at an institution located in a rural area compared to an urban institution where her spouse (often another academic or professional) has employment opportunities. Because US public universities are regulated by the individual 50 states, one state may have strong, state-mandated policies for family leave, while another has little or no provision for this. Thus each IT project team must identify what issues are salient in their local circumstance and devise specific solutions to fit these problems. Similar contextual differences occur from country to country in Europe, as the GenPORT synthesis notes.

Each team must also identify how to implement its proposed solutions. Higher education in the US is diverse: A top-down policy solution developed by administrators may succeed at one university but may be poorly received in a place where academic departments and schools have high autonomy and where traditions of faculty leadership are very strong. Even if the same strategy is selected, the mode of implementation might be different, depending on the institution's culture. For

example, training faculty search committee members about implicit bias may be centrally provided or department-specific, mandatory or optional, delivered online or in-person.

To help those designing, planning and leading institutional change efforts, we distilled some of our key research findings into a practical resource, the StratEGIC Toolkit: Strategies for Effecting Gender Equity and Institutional Change. The Toolkit includes both text and video materials. The Strategic Intervention Briefs describe 13 types of interventions often used by funded ADVANCE IT projects. Each 4-to-6-page Brief identifies the rationale for a certain intervention and its potential contributions to gender equity as part of a larger strategic change portfolio, with multiple examples. The Briefs describe interventions to improving faculty recruiting, faculty development, work/life policies, and leadership development, and several more.

Second, the Toolkit includes fifteen Institutional Portfolios, each of which describes how a different university combined multiple interventions into an overall change portfolio. The Portfolios demonstrate, through real examples, how the institutional context influenced each project team's design: what they identified as core problems for STEM women faculty, what interventions they chose to pursue, how they designed and implemented those interventions, and how well they succeeded.

New to the Toolkit in 2016 are a series of short video vignettes. Eleven Program Perspectives share highlights of a particular institution's story as told by one of its leaders. These Perspectives feature innovative contributions and challenges of various IT institutions, while five Cross-cutting Perspectives combine insights from a variety of ADVANCE leaders about the broad processes of change. For a video introduction to the Toolkit, visit https://www.youtube.com/watch?v=SBbWJH3Xup0

We concur with the GenPORT Synthesis that certain features help to foster change: strong institutional leadership, transparency and accountability, and education about implicit bias. We also concur that change takes time. It is important to learn from each other and support each other in this important work!.

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Note: The present document gives a brief overview of recent research findings regarding *Institutional Practices and Processes* for gender equality in science. Further research synthesis on (1) Education and Training, (2) Academic and Science Careers, (4) Gender in Research Content and Knowledge Production, (5) Policy Setting and Implemenation, and (6) Historical Perspectives and Future Scenarios are available on www.genderportal.eu

An **up to date version** of the bibliography and further relevant resources can be found under the following address:

http://www.genderportal.eu/tags/research-synthesis-3-institutional-practices-and-processes

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