

1 Rethinking Committee Work in the Research Enterprise: The Case of Regenerative 2 Gatekeeping

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13 Key Points

- 14 ● Committee work undergirds all facets of the STEM research enterprise.
- 15 ● Committee members play roles as gatekeepers that maintain the status quo and foster
16 institutional inertia.
- 17 ● “Regenerative gatekeeping” can empower individuals to promote belonging, access,
18 justice, equity, diversity, and inclusion.
19

20 Plain Language Summary

21 The science, technology, engineering, and mathematics or STEM research enterprise is shaped
22 by the myriad committees that support it, and the committee members making decisions about
23 policies, funding, and personnel effectively serve as gatekeepers. Centering belonging, access,
24 justice, equity, diversity, and inclusion in day-to-day committee work can empower many more
25 STEM community members to act as agents of change. We describe a new approach to
26 committee service we refer to as “regenerative gatekeeping” with the aim of broadening
27 participation and improving the climate of geosciences.
28

29 Abstract

30 The STEM research enterprise is slow to change (Morris, [2021](#); Behl et al., [2021](#)), and as
31 suggested by Marín-Spiotta et al. ([2020](#)), change will require reexamination of current processes.
32 Committees are profoundly influential in research on matters of policy, personnel, funding, and
33 more. As such, committee members serve as gatekeepers. We suggest that committee work
34 provides a vehicle that can challenge the status quo in the Earth and space sciences. We, the
35 Coastal and Ocean STEM Equity Alliance, propose a “regenerative gatekeeping” framework that
36 integrates belonging, accessibility, justice, equity, diversity, and inclusion, and that recasts
37 gatekeepers as stewards rather than sentinels. Adopting new language will move us closer to the
38 intentionality, accountability (Anderson, [2021](#)), and clarity required to transform the STEM
39 research enterprise. In so doing the STEM research community, which is among the least
40 diverse, would both honor and be the beneficiary of diverse identities and perspectives. Given
41 the foundational nature of committee service to the STEM research enterprise, we believe that
42 embracing this new framework holds great untapped potential.
43

44 **The Pressing Need**

45 We suggest that the potential of gatekeepers to foster changes can be enhanced through the lens
46 of belonging, access, diversity, equity and inclusion. In the future, gatekeepers will diversify in
47 the United States (U.S.) given national socio-demographic trends, but to date population changes
48 have not been matched by comparable changes in Earth and space science. The rapid change in
49 the U.S. population gives the context for regenerative gatekeeping, and situates it as challenging
50 yet critical.

51
52 “[B]y 2044, more than half of all Americans are projected to belong to a minority group (any
53 group other than non-Hispanic White alone) ([US Census 2015](#)).”

54
55 In the U.S., Hispanic/Latino is the [fastest growing](#) and largest ethnic group ([US Census 2015](#));
56 however, participation in geoscience appears to lag. Over the last four decades the
57 Hispanic/Latino population has [rapidly increased](#) from ~6% to 19%, yet attainment of
58 geoscience undergraduate degrees by this group has increased only from 3% to 10% (Beane et
59 al., [2021](#)). The observation that [Latinos are not attending college](#) in the same proportions as
60 Whites may contribute to the gap, although other factors are at play. Understanding the multiple
61 factors that promote student academic success for Latinos and for other groups with diverse
62 backgrounds in Earth and space sciences is essential to transforming the STEM research
63 enterprise. We propose that regenerative gatekeeping is a vehicle for widespread action beyond
64 under-represented groups and individuals and specific types of higher education institutions such
65 as [minority serving institutions](#) (MSIs).

66
67 The need to rethink gatekeeping is also evident from the current state of what is often referred to
68 as diversity, equity and inclusion (DEI) work. The past 20 years has seen the growth in DEI
69 goals and programs with key roles played either by early career researchers and/or people from
70 historically excluded communities. When DEI work is done on a “voluntary” basis, it arguably
71 constitutes a form of cultural taxation (Padilla, [1994](#)) especially when done by individuals based
72 on socio-demographic traits. Moreover, the value ascribed to DEI work varies widely with some
73 institutions considering it meritorious, while others consider it a distraction from research
74 productivity. Therefore, in addition to the possibility that such work is viewed negatively within
75 a given institution, vulnerable members of our scientific community might also be at risk for
76 challenging the existing order. Risks may include but are not limited to tenure denial, promotion
77 denial or promotion delay. Hence, an important opportunity is to leverage the privilege of
78 colleagues who may be willing to act as advocates or as champions for advancing DEI priorities.
79 A benefit of shared effort is wider visibility of a team committed to breaking down barriers for
80 everyone. We suggest that universal values of trust and reciprocity when establishing
81 partnerships will signal something larger than lone agitators, while also deepening collegial
82 relationships, what we think of as a “culture shift” in a direction that engenders regeneration.

83

84 **Our proposal: Regenerative Gatekeeping**

85 Committees play essential roles in all facets of research – e.g., setting priorities, planning
86 experiments, recruiting students, reviewing proposals, and vetting participants - and arguably
87 they have the power to counteract the institutional inertia that tends to maintain the status quo.
88 The gatekeeper role that committee members play deserves special attention in the Earth and
89 space sciences because of the persistent lack of diversity as evidenced by Ph.D. attainment
90 (Bernard and Cooperdock, [2018](#)) and undergraduate degree attainment (Beane et al., [2021](#)). We
91 propose regenerative gatekeeping as a mechanism for transforming the research enterprise by
92 dismantling the many existing barriers (Berhe et al., [2021](#)). We add “regenerative” in the same
93 vein as recent qualifiers in other arenas in the United States, e.g., [restorative justice](#),
94 [transformative resilience](#), [transformative justice](#), [generative conflict](#) (Anderson, [2021](#)), and
95 [emergent strategy/emergent design](#). Regeneration speaks to renewal, maximizing opportunities,
96 thriving, and thus to advancement beyond the current state.

97
98 Academic research provides relevant context for our proposition. Some argue that diversity in
99 the workforce is beneficial in the business sector (Herring, 2009; Kochan et al., 2003), and
100 specifically in effective problem solving (Hong and Page Scott, [2004](#)). Existing academic
101 literature about gatekeeping as a scholarly term has early roots in sociology (Broadhead and Rist,
102 1976) and journalism (White, 1950; Janowitz, [1975](#)). Recent years have witnessed a substantial
103 expansion in the scope of gatekeeping research from the labor market (e.g., Faulconbridge, [2009](#))
104 to language translation in medical discourse (e.g., Davidson, [2000](#)). Recent research has sought
105 to expand the origins and definitions of gatekeeping as a well established scholarly concept to
106 move common assumptions from social fields to networks (Deluliis, [2015](#)).

107
108 We suggest that the perspectives of social scientists are essential to help us think differently
109 about ourselves and our roles in STEM committee work. For example, through an understanding
110 of how innovations arise, and how humans interact, we might discover new avenues for
111 regenerative gatekeeping. Much as we can be unaware of our own biases, we can also fail to
112 recognize the many ways that our daily committee work plays a gatekeeping function that
113 maintains the status quo. Acknowledging gatekeeper bias, for example in [hiring](#), shows that bias
114 transfers into areas beyond the individual level into the workplace and how decisions and
115 programs are designed and implemented.

116
117 Additionally, by thinking of gatekeepers in positive and holistic ways, we can imagine new
118 definitions for this term that can help make the Earth and space sciences more welcoming,
119 inclusive, and accepting of who we are and what we have to offer. Recent social science research
120 by Sovacool et al., ([2020](#)) describes varied functions for the concept of “intermediary
121 gatekeepers,” including applicable roles for STEM committees: policy implementation,
122 networking, brokering, visioning, and standards development. Another view is offered by
123 Beronda Montgomery who challenges the entire concept of gatekeepers as a traditional approach

124 to propose that a more adequate view is of as groundskeepers (Montgomery, [2020](#)) that pay
125 attention to how individuals are situated within the whole ecosystem of an organization, similar
126 to how we think about how to cultivate a plant. Finally, yet importantly, a 2021 Andrew Mellon-
127 funded effort looks at how to make humane indicators of excellence in academia or what they
128 coin a [values-aligned academia](#). In a white paper, this Mellon-funded multi-institution effort
129 offers provocative entry points like “[c]reate better and more consistent ways to track what is
130 now often invisible labor to ensure equity.” In doing so, research, teaching, and service are
131 presented as interconnected resulting in complicating mainstream faculty narratives, making it
132 difficult to evaluate “merit” using the existing metrics. Achieving diversity goals and ensuring
133 regenerative gatekeeping within our work environments and in our research communities will
134 require finding ways to acknowledge invisible labor and support values-based metrics.

135

136 **Case Studies**

137 We find two recent efforts in Earth and space science exemplify how regenerative gatekeeping
138 can be applied in the STEM research enterprise. The first case is a mature example from a large
139 public institution, Oregon State University’s [Search Advocate Program](#). This program aims to
140 remove bias during the faculty search process through a workshop series that promotes what we
141 consider regenerative principles in the hiring process. The theoretical foundation for the program
142 draws from current research about implicit bias and diversity, information about the changing
143 legal landscape in hiring, and an overview of inclusive employment principles. The novelty of
144 the program is that it trains Search Advocates to function as external search committee members
145 that can probe assumptions, norms, and practices that an internal member might not
146 question. We see this as regenerative gatekeeping. The second example, rooted in research on the
147 power of [role models in STEM](#) and more broadly (Gibson, [2004](#)), and maximizing their impact
148 (Gladstone and Cimpian, [2021](#)), comes from Keisling et al., ([2020](#)) who describe graduate
149 students taking over seminar planning responsibilities at the University of Massachusetts at
150 Amherst to invite more diverse speakers. By rethinking gatekeeping, this example highlights the
151 power of challenging the status quo maintained by senior faculty. The new arrangement yielded
152 a parallel seminar track embraced by the administration, and an opportunity for senior faculty to
153 become champions to diverse early career researchers.

154

155 **What Can You Do to Achieve Regenerative Gatekeeping?**

156 The regenerative gatekeeping framework requires us to ask critical questions, and think about
157 how widely distributed actions might support transformation. A few [questions](#) to consider in
158 committee work might include: When was this policy originally adopted and has it been
159 reviewed? Why do we use this set of metrics when evaluating “merit” such as in applications for
160 scholarships? Can the infrastructure planning process be more inclusive to offer options for
161 bathroom designation(s), or for space(s) for nursing or affinity group(s) (Anderson, [2021](#))? Do
162 we exclude certain categories of institutions or groups of people from participating in a particular
163 line of inquiry or when applying for institutional funding? Do particular service burdens fall

164 disproportionately on historically excluded community members? How might authentic
165 conversations around privilege create openings for more advocates/champions in Earth and space
166 sciences?
167

168 Our call for individuals to initiate this widespread regenerative gatekeeping work acknowledges
169 that language can be inspiring. The goal is a healthy and supportive community in Earth and
170 space sciences and recent progress reveals that many individuals are keen to help. The
171 groundswell of interest is clear from contributions ranging from: strategies for individual and
172 collective actions (Behl et al., [2021](#)) to cultivate a more welcoming climate in the coastal, ocean,
173 and marine sciences; to acknowledging the value of discussion groups (Ormand et al., [2021](#)); to
174 fostering the coproduction of research with local communities, such as the concept of "equitable
175 exchanges" (Harris et al., [2021](#)); and to documenting the altruistic motivations of young people
176 poised to join our community (Carter et al., [2021](#)). Of course, there is more, much more to be
177 done in terms of racial/ethnic identity (Dutt, [2020](#)), disabilities and access to the field (Atchison
178 et al., [2019](#)), and gender identity (Ranganathan et al., [2021](#)), to name a few. Despite progress on
179 gender parity, for example, women in Earth and space science still face many barriers.
180 Dismantling these barriers would allow women to "thrive and not just survive" (Hastings, [2021](#)).
181 Steps in this direction include the [Earth Science Women's Network](#), [Geosciencewomen.org](#), and
182 the [Society for Women in Marine Science](#). Analogous community-driven groups with a focus on
183 race/ethnicity include [Black in Marine Science](#), [GeoLatinas](#), and [Asian Americans and Pacific
184 Islanders in Geoscience](#). We join this wave by offering what we hope is empowering language
185 that gives new meaning to much of our day to day work. Ultimately, we hope to invite many
186 more members of our Earth and space science community to rethink committee work.
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