

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

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13 The STEM research enterprise is slow to change (Morris, [2021](#); Behl et al., [2021](#)), and as
14 suggested by Marín-Spiotta et al. ([2020](#)), change will require reexamination of current processes.
15 Committees are profoundly influential in research on matters of policy, personnel, funding, and
16 more. As such, committee members serve as gatekeepers. We suggest that committee work
17 provides a vehicle that can challenge the status quo in the Earth and space sciences. We, the
18 Coastal and Ocean STEM Equity Alliance, propose a “regenerative gatekeeping” framework that
19 integrates belonging, accessibility, justice, equity, diversity, and inclusion, and that recasts
20 gatekeepers as stewards rather than sentinels. Adopting new language will move us closer to the
21 intentionality, accountability (Anderson, [2021](#)), and clarity required to transform the STEM
22 research enterprise. In so doing the STEM research community, which is among the least
23 diverse, would both honor and be the beneficiary of diverse identities and perspectives. Given
24 the foundational nature of committee service to the STEM research enterprise, we believe that
25 embracing this new framework holds great untapped potential.
26

27 **The Pressing Need**

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29 We suggest that the potential of gatekeepers to foster changes can be enhanced through the lens
30 of belonging, access, diversity, equity and inclusion. In the future, gatekeepers will diversify in
31 the United States (U.S.) given national socio-demographic trends, but to date population changes
32 have not been matched by comparable changes in Earth and space science. The rapid change in
33 the U.S. population gives the context for regenerative gatekeeping, and situates it as challenging
34 yet critical.
35

36 “[B]y 2044, more than half of all Americans are projected to belong to a minority group (any
37 group other than non-Hispanic White alone) ([US Census 2015](#)).”
38

39 In the U.S., Hispanic/Latino is the [fastest growing](#) and largest ethnic group ([US Census 2015](#));
40 however, participation in geoscience appears to lag. Over the last four decades the
41 Hispanic/Latino population has [rapidly increased](#) from ~6% to 19%, yet attainment of
42 geoscience undergraduate degrees by this group has increased only from 3% to 10% (Beane et

43 al., (2021). The observation that [Latinos are not attending college](#) in the same proportions as
44 Whites may contribute to the gap, although other factors are at play. Understanding the multiple
45 factors that promote student academic success for Latinos and for other groups with diverse
46 backgrounds in Earth and space sciences is essential to transforming the STEM research
47 enterprise. We propose that regenerative gatekeeping is a vehicle for widespread action beyond
48 under-represented groups and individuals and specific types of higher education institutions such
49 as [minority serving institutions](#) (MSIs).

50
51 The need to rethink gatekeeping is also evident from the current state of what is often referred to
52 as diversity, equity and inclusion (DEI) work. The past 20 years has seen the growth in DEI
53 goals and programs with key roles played either by early career researchers and/or people from
54 historically excluded communities. When DEI work is done on a “voluntary” basis, it arguably
55 constitutes a form of cultural taxation (Padilla, 1994) especially when done by individuals based
56 on socio-demographic traits. Moreover, the value ascribed to DEI work varies widely with some
57 institutions considering it meritorious, while others consider it a distraction from research
58 productivity. Therefore, in addition to the possibility that such work is viewed negatively within
59 a given institution, vulnerable members of our scientific community might also be at risk for
60 challenging the existing order. Risks may include but are not limited to tenure denial, promotion
61 denial or promotion delay. Hence, an important opportunity is to leverage the privilege of
62 colleagues who may be willing to act as advocates or as champions for advancing DEI priorities.
63 A benefit of shared effort is wider visibility of a team committed to breaking down barriers for
64 everyone. We suggest that universal values of trust and reciprocity when establishing
65 partnerships will signal something larger than lone agitators, while also deepening collegial
66 relationships, what we think of as a “culture shift” in a direction that engenders regeneration.

67

68 **Our proposal: Regenerative Gatekeeping**

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

81

82 Academic research provides relevant context for our proposition. Some argue that diversity in
83 the workforce is beneficial in the business sector (Herring, 2009; Kochan et al., 2003), and
84 specifically in effective problem solving (Hong and Page Scott, [2004](#)). Existing academic
85 literature about gatekeeping as a scholarly term has early roots in sociology (Broadhead and Rist,
86 1976) and journalism (White, 1950; Janowitz, [1975](#)). Recent years have witnessed a substantial
87 expansion in the scope of gatekeeping research from the labor market (e.g., Faulconbridge, [2009](#))
88 to language translation in medical discourse (e.g., Davidson, [2000](#)). Recent research has sought
89 to expand the origins and definitions of gatekeeping as a well established scholarly concept to
90 move common assumptions from social fields to networks (Deluliis, [2015](#)).

91

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

100

101 Additionally, by thinking of gatekeepers in positive and holistic ways, we can imagine new
102 definitions for this term that can help make the Earth and space sciences more welcoming,
103 inclusive, and accepting of who we are and what we have to offer. Recent social science research
104 by Sovacool et al., ([2020](#)) describes varied functions for the concept of “intermediary
105 gatekeepers,” including applicable roles for STEM committees: policy implementation,
106 networking, brokering, visioning, and standards development. Another view is offered by
107 Beronda Montgomery who challenges the entire concept of gatekeepers as a traditional approach
108 to propose that a more adequate view is of as groundskeepers (Montgomery, [2020](#)) that pay
109 attention to how individuals are situated within the whole ecosystem of an organization, similar
110 to how we think about how to cultivate a plant. Finally, yet importantly, a 2021 Andrew Mellon-
111 funded effort looks at how to make humane indicators of excellence in academia or what they
112 coin a [values-aligned academia](#). In a white paper, this Mellon-funded multi-institution effort
113 offers provocative entry points like “[c]reate better and more consistent ways to track what is
114 now often invisible labor to ensure equity.” In doing so, research, teaching, and service are
115 presented as interconnected resulting in complicating mainstream faculty narratives, making it
116 difficult to evaluate “merit” using the existing metrics. Achieving diversity goals and ensuring
117 regenerative gatekeeping within our work environments and in our research communities will
118 require finding ways to acknowledge invisible labor and support values-based metrics.

119

120 **Case Studies**

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

138

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

140 The regenerative gatekeeping framework requires us to ask critical questions, and think about
141 how widely distributed actions might support transformation. A few [questions](#) to consider in
142 committee work might include: When was this policy originally adopted and has it been
143 reviewed? Why do we use this set of metrics when evaluating “merit” such as in applications for
144 scholarships? Can the infrastructure planning process be more inclusive to offer options for
145 bathroom designation(s), or for space(s) for nursing or affinity group(s) (Anderson, [2021](#))? Do
146 we exclude certain categories of institutions or groups of people from participating in a particular
147 line of inquiry or when applying for institutional funding? Do particular service burdens fall
148 disproportionately on historically excluded community members? How might authentic
149 conversations around privilege create openings for more advocates/champions in Earth and space
150 sciences?

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152 Our call for individuals to initiate this widespread regenerative gatekeeping work acknowledges
153 that language can be inspiring. The goal is a healthy and supportive community in Earth and
154 space sciences and recent progress reveals that many individuals are keen to help. The
155 groundswell of interest is clear from contributions ranging from: strategies for individual and
156 collective actions (Behl et al., [2021](#)) to cultivate a more welcoming climate in the coastal, ocean,
157 and marine sciences; to acknowledging the value of discussion groups (Ormand et al., [2021](#)); to
158 fostering the coproduction of research with local communities, such as the concept of "equitable
159 exchanges" (Harris et al., [2021](#)); and to documenting the altruistic motivations of young people
160 poised to join our community (Carter et al., [2021](#)). Of course, there is more, much more to be

161 done in terms of racial/ethnic identity (Dutt, [2020](#)), disabilities and access to the field (Atchison
162 et al., [2019](#)), and gender identity (Ranganathan et al., [2021](#)), to name a few. Despite progress on
163 gender parity, for example, women in Earth and space science still face many barriers.
164 Dismantling these barriers would allow women to “thrive and not just survive” (Hastings, [2021](#)).
165 Steps in this direction include the [Earth Science Women’s Network](#), [Geosciencewomen.org](#), and
166 the [Society for Women in Marine Science](#). Analogous community-driven groups with a focus on
167 race/ethnicity include [Black in Marine Science](#), [GeoLatinas](#), and [Asian Americans and Pacific](#)
168 [Islanders in Geoscience](#). We join this wave by offering what we hope is empowering language
169 that gives new meaning to much of our day to day work. Ultimately, we hope to invite many
170 more members of our Earth and space science community to rethink committee work.

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178 **References**

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