



# Creating and Connecting Champions for Diversity in the Geosciences: Hearts of GOLD



P. Grady Dixon (Fort Hays State University) | Kathy Quardokus Fisher (Florida International University) | Eric Kaufman (Virginia Tech) | LaToya Myles (NOAA) | Carolyn Brinkworth (National Center for Atmospheric Research) | Denise Simmons (University of Florida)

[fhsu.edu/geo/gold](http://fhsu.edu/geo/gold)

@nsfgold

[cpaess.ucar.edu/gold](http://cpaess.ucar.edu/gold)

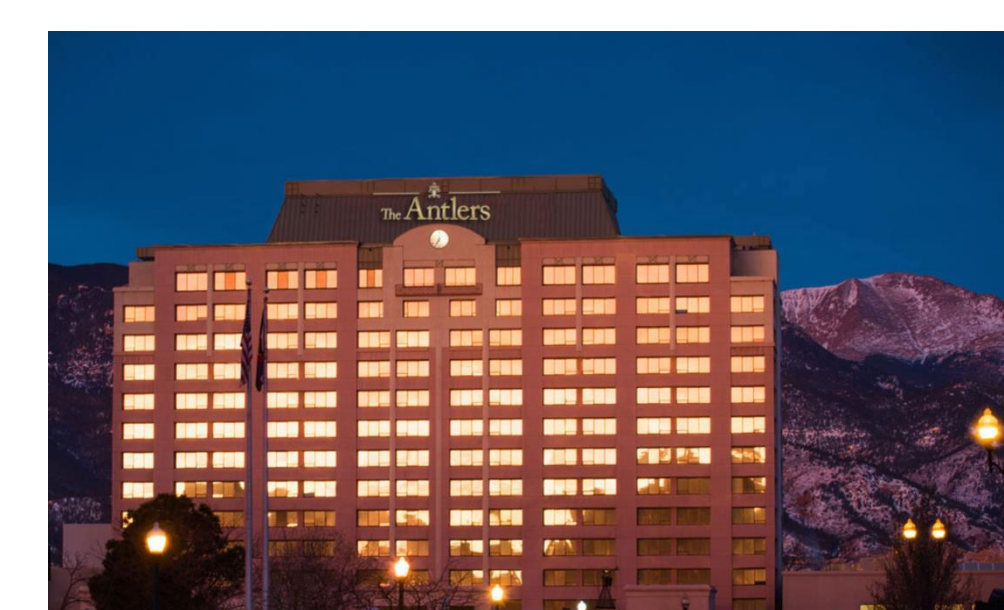
## Abstract

Geosciences currently trails other STEM fields in the recruitment and retention of underrepresented groups. However, we are testing a new professional-development program for established scientific leaders in the geosciences, to give them the content knowledge, tools, and skills needed to become champions of change for diversity. By targeting senior scientists who are already well-respected in the field, our project capitalizes on their reputations, networks, and social capital to build them into diversity champions with the power to make significant cultural change in their institutions and the wider field. The professional-learning sessions are called "GOLD Institutes," where GOLD is an abbreviation for Geo Opportunities for Leadership in Diversity. These GOLD Institutes occurred in Colorado Springs, Colorado, and were led by diversity-training experts from the Knapsack Institute during July of 2017 and 2018. Participants engaged in lessons of diversity, equity, and inclusion and they planned specific actions to lead change in their home organizations. In this preliminary report, we use case-study analysis to investigate how participants of the first session (July 2017) enacted change strategies.

## Methods

GOLD Institute  
Two-day workshops (summer 2017 and 2018) designed as "intensive" training in diversity, equity, and inclusion specifically for geoscientists.

**Knapsack INSTITUTE**  
TRANSFORMING TEACHING & LEARNING



Surveys: Pre-Institute; 1 week after Institute; 1 year after Institute

## Results

Subscale	Hearts of GOLD Participant Self-Ratings				Validation Study Subjects (n=200)
	Before (n=18)	1 Week Post (n=15)	1 Year Post (n=8)	All (n=41)	
Affection	5.31 (1.18)	5.25 (0.63)	5.22 (0.65)	5.27 (0.90)	4.41 (1.12)
Comfort	4.88 (1.19)	5.20 (0.71)	5.13 (1.01)	5.04 (0.99)	4.03 (1.27)
Kinship	3.39 (0.94)	4.16 (0.90)	3.96 (1.23)	3.78 (1.03)	3.03 (1.20)
Engagement	5.13 (1.19)	5.28 (0.67)	5.25 (0.46)	5.21 (0.89)	3.76 (1.20)
Enthusiasm	4.51 (1.19)	5.00 (0.76)	4.75 (1.50)	4.74 (1.11)	3.56 (1.20)
Allophilia - All	4.72 (0.96)	5.01 (0.52)	4.90 (0.84)	4.86 (0.79)	3.80 (1.01)

Ranking	Theme	Participants
Small adjustments to activities by using pre-existing bridges	Provided GOLD Institute material as a resource (article or definition)	4
	Discussed or facilitated discussion of DEI with colleagues outside of the local workplace	2
	Discussed or facilitated discussion of DEI with the GOLD Institute network	5
Substantial adjustments to activities by developing new bridges	Wrote a community-guiding document on diversity, equity, and inclusion (e.g., white paper)	2
	Wrote a public blog, article, and/or newsletter	4

Ranking	Theme	Participants
Small adjustments to prior activities	Makes a choice to attend DEI lunches or professional development	4
	Has had informal conversations with colleagues about DEI	2
	Includes discussion of DEI as part of hiring meetings	5
	Discuss DEI at faculty meetings	2
Substantial adjustments or developing new activities	Developed/developing/plans to create a DEI talk/workshop	4
	Create a process for strategic planning, statement, policy development	2

Ranking	Theme	Participants
Small adjustments to prior activities	Noticing importance of DEI in day-to-day situations	8
	Hiring procedures or student acceptance influenced by DEI	5
Substantial adjustments or developing new activities	Resource sought out by others	1
	Created events where brokerage could take place	3

26% of women and 6% of men report being sexually assaulted while conducting field research  
Clancy et al. 2014

71% of women and 41% of men reported being sexually harassed when conducting science-related field research  
Clancy et al. 2014

Minority job applicants who resort to "resume whitening" are more than twice as likely to receive a callback.  
Kang et al. 2014

Black women report interest in STEM at rates higher than white women (23% vs 16%), but only 8% of black women complete STEM degrees as opposed to 10% of white women  
Hamilton 2014

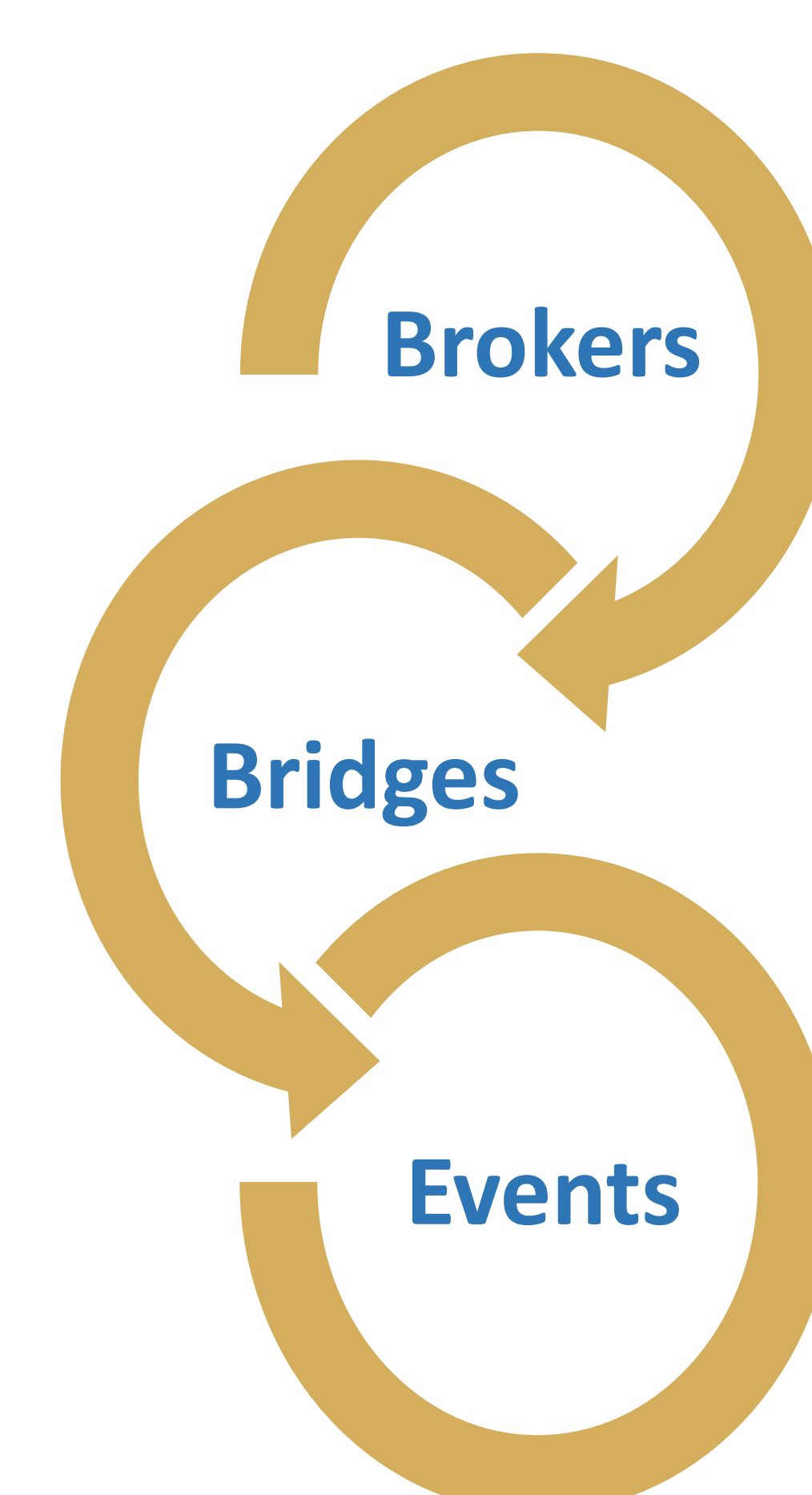
40% of women of color reported feeling unsafe in the workplace due to their sex or gender; 28% of women of color reported feeling unsafe because of their race.  
Clancy et al. 2017

**Hearts of GOLD**  
Using the influence of respected geoscientists to create champions for diversity in the geosciences

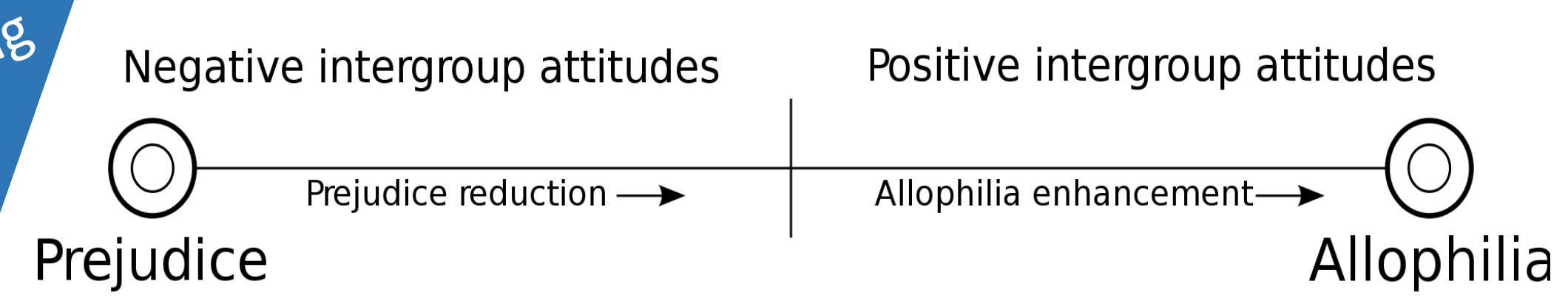
The following scale is a measure of *allophilia*, derived from the Greek for "like or love for the other." It is adapted from the Allophilia Scale created by Pittinsky, Rosenthal, and Montoya (2011), using the National Science Foundation's (2008) examples of underrepresented groups in need of broadening participation: Alaska Natives, Native Americans, Blacks or African Americans, Hispanics, Native Hawaiians and other Pacific Islanders, and Persons with Disabilities.

Please share your level of agreement with each of the following items from the Allophilia Scale (Pittinsky, et al., 2011).

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
In general, I have positive attitudes about Persons with Disabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I respect Alaska Natives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like Native Americans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel positively toward Blacks or African Americans.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am at ease around Hispanics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable when I hang out with Native Hawaiians and other Pacific Islanders.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Allophilia catalyzed through professional learning



Interviews: 11 participants asked about their activities in year after GOLD Institute. Responses were coded as "bridge," "broker," or event.

Term	Code Definitions
<b>Bridge</b>	Artifact, tool or document that can be understood by people in different communities. Discourse which allows people to negotiate meaning across boundaries.
<b>Broker</b>	Person bringing new ideas from the workshop back to their job.
<b>Event</b>	Physically brings the community together to help it develop a new identity.

## Champions for Diversity

*should be:*  
**Role Models:** allophilia (love of the other); affection, comfort, kinship, engagement, and enthusiasm (Pittinsky 2005)

**Change Agents:** facilitate the adoption of new ideas via changes in structures, culture, and practices

## Research Questions

**Role Models:**  
To what degree do participants express positive attitudes towards others?

**Change Agents:**  
How do participants use bridges, create events, and/or acts as brokers to facilitate change in their home community?

## Discussion

- We identified at least 40 "Champions for Diversity" who see the need to increase diversity in their disciplines
  - They scored higher on allophilia scale than a control group
  - Our response rate was much higher than expected
- All participants took actions to create change after our training
  - Some actions were more impactful than others
  - Some actions could/should lead to future actions by others
  - It is clear that even well-meaning scientists need help
- Continued analysis of interviews (including Year 2) will add to results



**FORT HAYS STATE UNIVERSITY**

*Forward thinking. World ready.*