

# 2021 DI&A Implementation Plan & Report – Submitted 6/29/21

## Introduction

The Civil and Environmental Engineering (CEE) Department at the Colorado School of Mines is focused on becoming the global go-to institution for research and education in Smart, Sustainable Urban Infrastructure (UI). UI is one of the few National Academy of Engineering Grand Challenges, and Sustainable Infrastructure is one of the top strategic initiatives of the American Society of Civil Engineering (ASCE). The United Nations also cites sustainable development goals for the world that include “Sustainable Cities and Communities.”

The popularity of CEE’s undergraduate programs has grown significantly. As of Spring 2021, CEE had 472 undergraduate students in two ABET-accredited degrees and 88 graduate students across four unique degree programs. The CEE department is home to several interdisciplinary degrees (Hydrologic Science and Engineering and Underground Construction and Tunneling) as well as large research initiatives. Research productivity of the tenure/tenure-track (T/TT) faculty is strong, with ~\$8.3M in expenditures during AY2019 and average expenditures of \$460k/year per T/TT faculty.

## Diversity, Inclusion & Access Overview

Diversity, Inclusion & Access is a central component to the CEE Department. Our department is a community that welcomes, respects, and supports people of all backgrounds. Cultivating and sustaining a diverse and inclusive department is critical to our education and innovation missions as well as to our future success as one of the top departments in the nation. The vision of the CEE DI&A committee is to provide a culture of inclusion for everyone that engages with our department.

As of May 2021, our academic faculty are 31% women, and 39% from underrepresented groups; research faculty and postdocs are 29% women and 47% from underrepresented groups. We are proud of the diversity of our faculty and staff, and are at or better than national averages for PhDs awarded in our field, according to data from NSF.

The Civil Engineering and Environmental Engineering degree programs have an undergraduate population that is 47% women and 24% underrepresented students. Seventeen percent of our undergraduates are first-generation college students. Our graduate students for all programs are 45% women enrolled in our MS degrees (including Hydrologic Science and Engineering) and 42% women enrolled in our PhD program. Approximately 18% of our MS students are from underrepresented groups, compared to 8% of our PhD students. According to our data, the women and underrepresented students in our undergraduate and graduate degree programs have similar if not better persistence than their counterparts, other than in the graduate Hydrology degree program, which may be a function of smaller numbers of students.

## Historical and ongoing efforts

CEE faculty have long been instrumental in campus-wide efforts that support DI&A. Such activities include serving as faculty advisors to Mines student chapters of the Society of Hispanic Professional Engineers (SHPE) and the American Indian Science and Engineering Society (AISES), participating in student support services such as summer bridge programs and core tutoring, serving on and leading DI&A Councils, and securing grants to support campus-wide DI&A. Faculty, staff and

students also have a long history in education and outreach efforts that often focus on engaging and recruiting students and the general public in underserved communities (REU summer programs; ReNUWIt DI&A efforts - including a student DI&A graduate admissions committee; and others). With ReNUWIt closeout, the plan is to shift responsibilities of the DI&A efforts within research centers to the CEE DI&A committee to continue building on such efforts in a more formalized and comprehensive manner.

## Our process

In developing this plan, we hope to engage the entire departmental faculty, staff, graduate students and undergraduate students. The Fall 2020 to Spring 2021 CEE DI&A committee includes T/TT faculty members Lori Tunstall and Josh Sharp, Teaching Faculty members Joe Crocker, Andres Guerra, and Chelsea Panos, Staff member Stephen Green, and we also added a graduate student, Maryam Alahmar, and undergraduate student, Malaynah Palaroan, in Spring 2020. Also of note is that each committee member has significant past experiences and passions in DI&A ventures. We are also building on initiatives spearheaded by graduate students involved in ReNUWIt's diversity and inclusion efforts.

We engaged the broader department in DI&A discussions during the past year as our goal was to promote awareness among the faculty through DI&A activities conducted during many of the bi-weekly department meetings. Our efforts focused on needs assessment and fostering dialog. We aim to collect and review data and information on DI&A within our department. We will identify areas of high impact and high need, and then adopt solutions based in best practice.

## Our plan

We will continue to focus our efforts on reviewing and analyzing data, conducting a needs assessment, and fostering dialog. We plan to engage many of our faculty in the CEE DI&A implementation. We will also periodically check in on progress at faculty meetings and have responsible parties report on activities.

Strategic Plan Alignment	Action/Program	Short term outcomes (1-2 years)	Long term outcomes (by Mines@150- 5 years)	Responsible	Metrics & baseline data
Culture #1	Have instructor and TAs complete inclusive classroom checklist	Unit has a better sense of what best practices we are employing in class. Instructors and TAs are introduced to inclusive classroom best practices	More instructors are implementing inclusive classroom best practices.	Undergraduate and Graduate committee Chairs	% instructors completing checklist, % of best practices used in class
Culture #3	Conduct a self-assessment of our unit's culture & needs wrt DI&A	Helps us identify what best practices we are already doing, and prioritize areas for improvement. We will do both the online survey & focus groups.	Compare to the Mines contracted survey (starting in 2020) and evaluate improvements to climate for all implementation plan programs.	CEE faculty	Data reported in the self-assessment survey

Data #1	Evaluate faculty service load	Identify any inequities in service loads.	Have a fair and equitable allocation of service.	Munakata Marr, Strathmann,	Service hours, # of services per faculty
Retention #1/#3	Evaluate our students/staff ability to take advantage of mentoring and/or professional development	Identify if we have any inequities in those who have access to mentoring or professional development. Implement strategies to remedy.	Employee turnover goes down, satisfaction increases. Employees develop and improve professional skills.	CEE faculty	% using prof dev, mentoring; turnover, climate survey results
Data #1	Analyze our department DI&A report for any inequities and accuracy	Identify areas of high need, support accuracy of the annual reports by sending feedback to DI&A Council	Findings will support our DI&A programs for subsequent years	Munakata Marr, Strathmann,	NA
Rewards #2	Nominate someone or a group for DI&A awards	Raise awareness of our DI&A efforts, nominate at least 1 person/group per year.	Raise awareness of our DI&A efforts. Have received one DI&A award.	CEE Awards committee	# nominations, # awards
Foster Dialogue #1 & Shared Resp #3	Task every dept committee to identify ways that DI&A can be integrated into their standard operation procedures	All of our faculty/staff/committees are engaged in thinking about and acting to support DI&A.	Our committees standardize & normalize expectations for supporting DI&A throughout our dept.	Munakata Marr, Strathmann, leads of all committees	#committees, # practices
Foster Dialogue #1	Publish this plan and our commitment to DI&A on our website & on social media	Our stakeholders and students know and see our commitment to DI&A	Our stakeholders, students, alumni, and peers see us as leaders in DI&A	Munakata Marr, Strathmann, Brock	Plan published, websites updated

## Our Progress

Strategic Plan Alignment	Action/Program	Status: Complete, Ongoing, Future plans, Stalled, or Removed	Data & Outcomes
Culture #1	Have instructor and TAs complete inclusive classroom checklist	<b>Ongoing:</b> The inclusive classrooms checklist was reviewed with the faculty during a departmental faculty meeting. For Fall 2021: Develop a plan for the inclusive classroom checklist to be shared with all TAs who work for the department. ReNUWIt also released its Inclusive Excellence Initiative website this past summer, which the CEE DIA committee will promote. <a href="https://inclusive.renuwit.org/">https://inclusive.renuwit.org/</a>	See appendix
Culture #3	Conduct a self-assessment of our unit's culture & needs with respect to DI&A		See appendix
Data #1	Evaluate faculty service load	<b>Complete:</b> CEE has established a matrix of service commitments to CEE (e.g. P&T, Undergraduate Curriculum, Graduate Admissions, Faculty Awards) and to Mines (Faculty Senate, various Councils). Faculty are generally assigned to two service activities each, with consideration of effort involved to distribute equitably among all faculty. <b>Ongoing:</b> need to continue looking into this.	
Retention #1/#3	Evaluate our students/staff ability to take advantage of mentoring and/or professional development	<b>Future Plans:</b> continue to advertise and encourage the Mines-wide mentoring.	
Data #1	Analyze our department DI&A report for any inequities and accuracy	<b>Ongoing:</b> We collected data this year that can help us identify where this committee should focus their efforts in the future.	

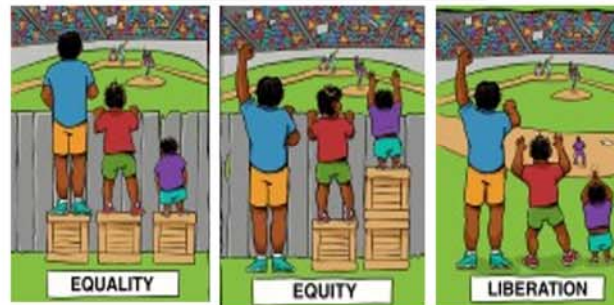
Rewards #2	Nominate someone or a group for DI&A awards	<p><b>Complete:</b> CEE DI&amp;A Committee nominated graduate student Maryam Alahmar for the MLK Jr. award. We also nominated her for the DI&amp;A award, which Maryam received in Spring 2021.</p> <p><b>Ongoing:</b> Coordinate with the CEE Awards committees to identify persons or groups when calls for nominations come up. Work to develop a mentoring program to help prepare the nominees for both Mines and outside professional society recognitions to increase success.</p>	Maryam was an award recipient in spring 2021. Her receipt of this award provides evidence and support for people who are doing committed work in these areas.
Foster Dialogue #1 & Shared Resp #3	Task every dept committee to identify ways that DI&A can be integrated into their standard operating procedures	<p><b>Ongoing:</b> We are working to develop departmental bylaws and committee standard operating procedures.</p> <p><b>Future Plans:</b> We hope to finalize these during 21-22 Academic Year.</p>	
Foster Dialogue #1	Publish this plan and our commitment to DI&A on our website & on social media	<p><b>Ongoing:</b></p> <ul style="list-style-type: none"> <li>a. Bring to the attention of the faculty the campus DI&amp;A report that is in the form of a brochure and web posting.</li> <li>b. Develop strategies to prepare our students to be educated and sensitized on DI&amp;A to prepare them to address and face issues that may come up after graduation.</li> <li>c. Keep continuity in the committee by rotating members, rather than formulating new committee each year.</li> <li>d. Develop web link once undergraduate student help is available.</li> </ul>	Start of Fall 2020 when committees for AY 2020-21 are charged. The weblink will be completed during the first month of Fall 2020 semester.
Shared Responsibility #3	Encourage faculty and staff to participate in advocates & allies training. Have at least 5 trained advocates in the department.	New: work on setting up training for CEE. We are not proposing a lot of new work because we feel we have so much progress to make on what we are already working towards and want to establish our ongoing endeavors before diving into other new things.	

## DI&A Activities in 2020-2021 have focused on Faculty Awareness

### Univ. Delaware Inclusive Teaching Modules



### They/Them/Their Pronouns



### Mines Concrete Canoe Video



### Word Cloud – Favorite Inclusive Teaching Practice

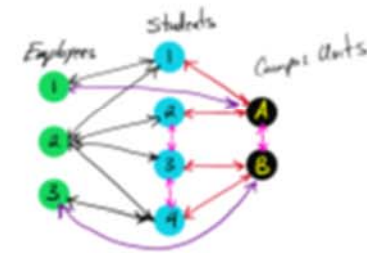
individual interests  
syllabus statement  
promote resources  
individual perspectives  
student names  
available resources  
inclusive tone  
feedback names  
accommodate students  
class participation

implicit bias  
class  
feedback  
tas graders  
participation  
available  
student feedback  
available resources  
accommodate students

### Mines BIPOC Page



### Flash Talk



## Share Responsibility Poll Results – Poll Conducted March 22<sup>nd</sup>, 2021

Our committee vision is to provide a culture of belonging for anyone that engages with CEE department.

Where is our department with meeting our vision?

A– absolutely everyone that engages with our department feels like they are not just invited but that they have **no doubt they belong**.

...

H – everyone and anyone that engages with our department **do not** even feel like they were invited.

1. Choose one option.



- These events are affecting many people on our campus
- What are one or two words that describe your impact or feelings about these events?
- <https://pollev.com/andresguerra973>
  - You don't need to login- just hit skip.
  - It is anonymous



## 2<sup>nd</sup> Word Cloud- What would you like the CEE DI&A committee to focus on in the coming year?

- Inclusive Teaching Practices
- Awareness of biases
  - Mines BIPOC Page
  - Mines Concrete Canoe Video with women talking about gender bias in workplace
  - Use of They/Them/Their pronouns
  - Current events
- Ways to Promote Diversity–8 ways from Athletics to Engineering
- Updates on campus wide initiatives with DI&A
- Others– feel free to add your own
- <https://pollev.com/andresguerra973>

