

# Multicultural Training for Broadening Participation

## *Focus on Graduate Students*

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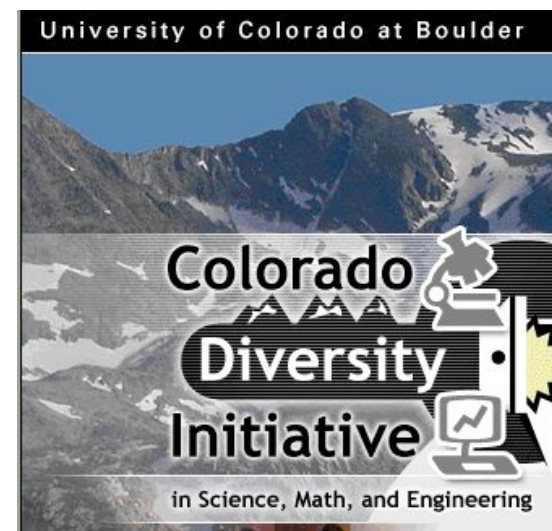
<http://www.umbc.edu/promise>

TABLE 14. Doctorate recipients, by subfield of study: 1999–2009

Subfield of study	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Topology/foundations	65	50	54	40	49	52	51	72	62	58	73
Mathematics/statistics, general	116	151	155	133	150	81	104	107	145	142	173
Mathematics/statistics, other	133	99	103	93	88	73	60	61	14	63	69
Ocean/marine sciences	179	207	196	181	196	189	190	179	231	219	217
Hydrology and water resources	32	43	45	35	26	43	41	38	42	45	38
Marine sciences	30	36	36	42	36	59	61	61	72	75	78
Oceanography, chemical and physical	100	99	85	86	98	66	74	60	109	83	81
Ocean/marine, other	17	29	30	18	36	15	14	20	8	16	20

TABLE 20. Doctorate recipients, by citizenship, race/ethnicity, and subfield of study: 2009

Subfield of study	All doctorate recipients <sup>b</sup>	Temporary visa holders	U.S. citizens and permanent residents <sup>a</sup>							Other/unknown race <sup>d</sup>
			Total	American Indian <sup>c</sup>	Asian	Black	Hispanic	White	Two or more races	
Geological and earth sciences	493	158	316	0	9	4	12	281	3	7
Geology	142	34	94	0	1	2	4	82	2	3
Geophysics and seismology	102	54	48	0	2	1	3	42	0	0
Geochemistry, mineralogy	90	27	62	0	3	1	1	55	0	2
Paleontology, stratigraphy	48	12	36	0	0	0	0	34	1	1
Geomorphology, geological sciences-general, geological sciences-other	111	31	76	0	3	0	4	68	0	1
Mathematics	1,554	713	772	3	84	25	36	593	15	16
Algebra	139	43	95	1	5	1	1	85	1	1
Analysis and functional analysis	130	58	71	1	7	3	6	51	2	1
Geometry/geometric analysis	89	43	46	0	4	1	3	37	1	0
Number theory	64	26	38	0	2	0	2	32	0	2
Statistics	353	193	142	0	31	7	4	93	5	2
Applied mathematics, computing theory	398	191	197	1	20	10	13	147	3	3
Logic, topology/foundations	111	31	77	0	4	0	3	66	2	2
Operations research, mathematics/statistics-general, mathematics/statistics-other	270	128	106	0	11	3	4	82	1	5
Ocean/marine sciences	217	66	146	0	7	1	10	124	2	2
Marine sciences	78	12	65	0	3	0	4	56	1	1
Oceanography, chemical and physical	81	38	41	0	2	0	3	36	0	0
Ocean/marine sciences, aggregated	58	16	40	0	2	1	3	32	1	1
Physics	1,629	763	788	0	66	12	24	649	12	25



The Institute On **TEACHING AND MENTORING**

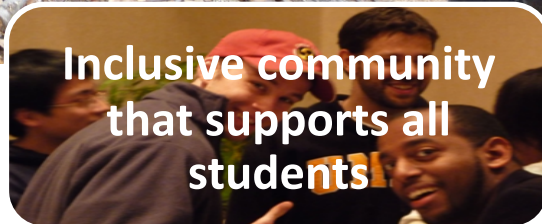


**DISSERTATION HOUSE**





**Students  
mentor one  
another**



**Inclusive community  
that supports all  
students**



**Underrepresented  
students not isolated**





# ***Strategic Actions***

- **Recruitment:** Networking/Connecting with COSEE programs that have pipelines with undergraduate students.
- **Retention:** Co-sponsoring events with other programs on campus that mentor/support graduate students and students from underrepresented backgrounds (examples: SACNAS, NSBE, GSA, AISES).
- **Successful graduation & transition to career:** Sponsor opportunities for students to connect and network (e.g. conferences).
- **Partnering:** Percent time and effort to staff members from AGEP or similar program.



## **Trade:**

- Disconnection/isolation for group
- Assumptions for conversations
- Exclusivity for inclusiveness
- Mystery for clear view of milestones

## **Promote:**

- Socialization (tea/coffee)
- Open discussion
- Healthy \*external\* competition

## **Implement**

- Cohesive unit
- Communication structure
- Recognition of “Super Powers”
- Peer Mentor structure
- Faculty Mentor (in addition to advisor)