



CHANGING TIMES CHANGING MINES

2010 Faculty Senate Distinguished Lecture

Annette Loch Bunge

Professor Emeritus

Chemical Engineering Department

Colorado School of Mines

March 23, 2011



Additional Information

- Data sources and who was included in faculty numbers
- Tables of faculty numbers and timeline for women faculty
- Total number of faculty since 1974
- Number of women professors since 1974
 - Firsts
 - Percentage over time
 - Comparing 2004 to 2010
- Number of men professors since 1974
 - Comparing 2004 to 2010
- Additional graphs
 - Percent of all professors in each rank since 1974 for men and women
 - Number and percent of all professors in each rank since 2000 for men and women
 - Percent of women or men in each rank since 2000
- Women faculty by year and department
- All women faculty by department

Counting Faculty – Data Sources

- Student Bulletins
- Human Resources Data
- Prospector Yearbook
- Direct Contact (Women Only)



Counting Faculty – Data Sources

- Student Bulletins
 - Published annually before the academic year begins
 - Often (but not always) a one-year lag
 - Data updates have not always been timely
 - Only 2 published 1988-1992
- Human Resources Data
- Prospector Yearbook
- Direct Contact (Women Only)



Counting Faculty – Who is Included

- Assistant Professors
- Associate Professors
- Professors



Counting Faculty – Who is NOT included?

- Lecturers
- Instructors
- Adjunct (Assistant / Associate) Professors
- Emeritus (Associate) Professors
- Visiting (Assistant / Associate) Professors
- Research (Assistant / Associate) Professors



Table 1. Number of women and all tenure track faculty by rank in each academic year. The numbers for all faculty were counted from the Directory of the School included in the student Bulletins, which were published annually except for 1989 and 1991. The number for all faculty in 1989 and 1991 were assumed to be the same as the prior year (i.e., 1988 and 1990, respectively). Faculty with appointments in Military Science Department or Athletics were excluded. The numbers for women faculty were determined using data from the Student bulletins combined with other sources including direct contact where possible (see Table 2 for more detail on women faculty).

Year	Women				All (Women and Men Combined)			
	Professor	Associate	Assistant	Total	Professor	Associate	Assistant	Total
1974	0	0	1	1	51	44	30	125
1975	0	0	2	2	49	43	28	120
1976	0	0	3	3	51	46	29	126
1977	1	0	4	5	52	47	37	136
1978	1	0	5	6	57	56	39	152
1979	1	0	5	6	60	56	33	149
1980	1	0	5	6	65	54	35	154
1981	1	1	12	14	71	55	42	168
1982	1	1	13	15	82	54	45	181
1983	0	3	11	14	87	53	41	181
1984	0	3	9	12	93	55	37	185
1985	0	4	7	11	91	54	35	180
1986	0	5	7	12	94	50	27	171
1987	0	10	3	13	103	47	24	174
1988	0	9	5	14	94	48	25	167
1989	0	11	3	14	94	48	25	167
1990	0	12	3	15	83	59	18	160
1991	3	12	3	18	83	59	18	160
1992	3	13	4	20	83	58	20	161
1993	3	13	4	20	82	57	21	160
1994	3	13	5	21	80	53	23	156
1995	4	12	6	22	82	55	27	164
1996	5	10	5	20	82	54	30	166
1997	6	9	5	20	82	55	34	171
1998	6	7	5	18	80	60	28	168
1999	6	7	7	20	84	57	27	168
2000	6	9	8	23	75	58	35	168
2001	6	9	9	24	82	62	37	181
2002	6	9	10	25	87	65	31	183
2003	6	7	13	26	81	62	28	171
2004	6	7	10	23	83	61	30	174
2005	5	7	12	24	82	58	36	176
2006	5	10	11	26	82	59	38	179
2007	6	11	9	26	81	59	39	179
2008	7	13	11	31	84	62	45	191
2009	6	12	11	29	82	61	49	192
2010	7	12	13	32	81	64	53	198

Table 2. List and timeline for women who have been appointed as Assistant Professor, Associate Professor or Professor at Mines listed by department (using the name of the department at time of appointment in most, although not all cases). The timeline indicates women in the ranks of Assistant Professor, Associate Professor, and Professor (designated by the numbers 1, 2 and 3, respectively) by academic year listed by the first year (i.e., 1974 represents the 1974-75 academic year). A faculty member is listed in a given academic year if she were at Mines any time during that academic year or the summer following that academic year. (For example, a faculty member who left Mines at the end of the 1990 Fall semester or the 1991 Spring semester or Summer 1991 is listed in 1990 but not in 1991.) A faculty member who started in the Summer is assigned to the academic year of the following Fall semester (i.e., a faculty member who started in Summer 1991 is shown as starting in 1991). Although promotions are announced during Spring semester, they become official in the following Fall semester and are recorded in the academic year of that Fall semester. For some faculty members, only the year they started or left was known. In these cases, it was assumed that they started at the beginning of the academic year (Fall semester) and left at the end of the academic year (Spring semester).

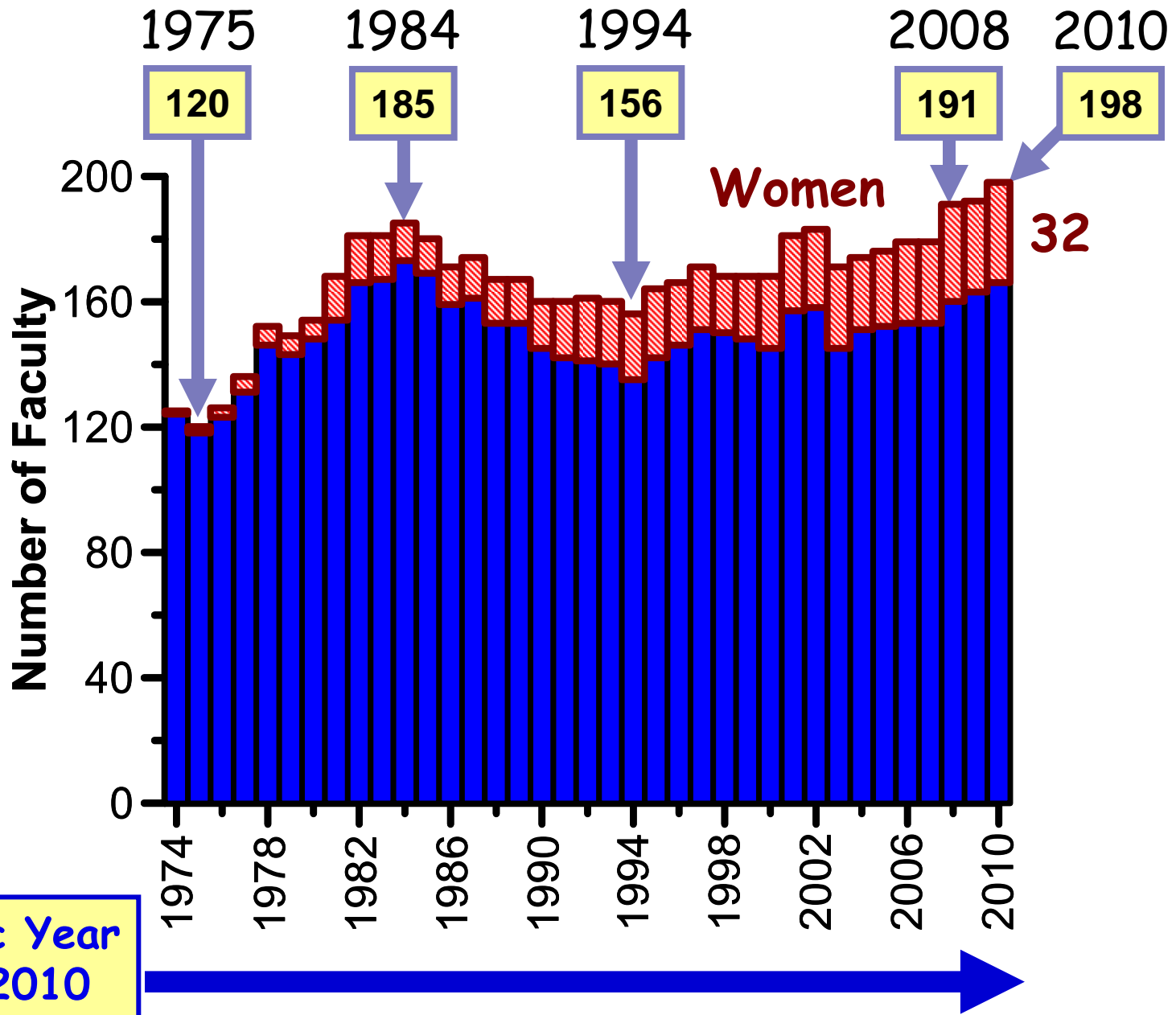
Last Name	First Name	Dept	Start	Assistant	Associate	Professor	Left	Changed Dept	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
McCabe	Clare	Chem Eng & Petr Refining	2002 Spg	2002 Spg			2004 Sum													
Bunge	Annette	Chemical & Petr-Refining Eng	1981 Fall	1981 Fall	1985 Fall	1991 Fall	2005 Sum									1	1	1	1	2
Shine	Annette	Chemical Eng & Petr Refining	1986 Fall	1986 Fall			1988 Sum													
Koh	Carolyn	Chemical Engineering	2006 Fall		2006 Fall															
Voelker	Bettina	Chemistry & Geochemistry	2004 Fall		2004 Fall															
Williams	Kim	Chemistry & Geochemistry	1997 Fall	1997 Fall	2000 Fall															
Carey	Janis	Economics & Business	1998 Fall	1998 Fall			2004 Sum													
Dahl	Carol	Economics & Business	1991 Fall			1991 Fall	2010 Fall													
Godesiabo	Joy	Economics & Business	2008 Fall	2008 Fall																
Gurgur	Cigdem	Economics & Business	2003 Fall	2003 Fall			2009 Spg													
Katok	Elena	Economics & Business	1997 Fall	1997 Fall			1998 Fall													
Khindanova	Irina	Economics & Business	2000 Fall	2000 Fall			2007 Spg													
Maurer	Ruth	Economics & Business->Mathematics	1978 Fall	1978 Fall	1983 Fall		1996 Sum	1987 Fall				1	1	1	1	1	1	2	2	2
Newman	Alexandra	Economics & Business	2000 Fall	2000 Fall	2006 Fall															
Semikolenova	Yadviga	Economics & Business	2006 Fall	2006 Fall			2007 Spg													
Gosink	Joan	Engineering	1991 Fall			1991 Fall	2003 Fall													
Johnson	Kathryn	Engineering	2005 Fall	2005 Fall																
Knox-Kelecy	Andrea	Engineering	1995 Spg	1995 Spg			1997 Sum													
Silverman	Anne	Engineering	2011 Spg	2011 Spg																
Wang	Judith	Engineering	2007 Fall	2007 Fall																
Weiss	Manoja	Engineering	2003 Fall	2003 Fall			2009 Spg													
Brooks	Joan	Engineering / Basic Engineering	1976 Fall	1976 Fall			1985 Spg				1	1	1	1	1	1	1	1	1	1
Carnell	Debra	Engineering / Basic Engineering	1981 Fall	1981 Fall			1984 Spg									1	1	1		
Gibbs	Elizabeth	Engineering / Basic Engineering	1981 Fall	1981 Fall			1984 Spg									1	1	1		
Willard	Beatrice	Environmental Science	1977 Fall			1977 Fall	1983 Spg				3	3	3	3	3	3	3			
Ahmann	Dianne	Environmental Science & Eng	1999 Fall	1999 Fall			2005 Fall													
Dawson	Helen	Environmental Science & Eng	1991 Fall	1991 Fall			1998 Spg													
Figuroa	Linda	Environmental Science & Eng	1990 Fall	1990 Fall	1997 Fall															
Marr	Junko Munakata	Environmental Science & Eng	1999 Fall	1999 Fall	2006 Fall															
Booy	Emmy	Geology	1977 Fall	1977 Fall	1983 Fall		1988 Spg				1	1	1	1	1	1	1	2	2	2
Aschoff	Jennifer	Geology & Geological Eng	2008 Fall	2008 Fall																
Harrison	Wendy	Geology & Geological Eng	1988 Spg	1988 Spg	1991 Fall	1997 Fall														
Plink-Bjorklund	Piret	Geology & Geological Eng	2006 Spg	2006 Spg	2007 Fall															
Poeter	Eileene	Geology & Geological Eng	1987 Sum	1987 Sum	1991 Fall	1996 Fall	2008 Fall													
Zhou	Wei (Wendy)	Geology & Geological Eng	2008 Spg		2008 Spg															
Skokan	Catherine	Geophysics->Engineering	1982 Fall	1982 Fall	1987 Fall		2010 Fall	1996 Fall									1	1	1	1
Alexander	Julia Ann	Humanities & Social Sciences	1974 Fall	1974 Fall			1979 Spg		1	1	1	1	1							
Cannon	Betty Jo	Humanities & Social Sciences	1981 Fall	1981 Fall	1987 Fall		1997 Spg									1	1	1	1	1
Hackos	Joann	Humanities & Social Sciences	1979 Fall	1979 Fall			1983 Spg								1	1	1	1		
Ochs	Kathleen	Humanities & Social Sciences	1981 Fall	1981 Fall	1987 Fall		2003 Spg									1	1	1	1	1
Olds	Barbara	Humanities & Social Sciences	1984 Fall	1984 Fall	1989 Fall	1995 Fall	2008 Fall												1	1
Pang	Laura	Humanities & Social Sciences	1988 Fall	1988 Fall	1992 Fall		2008 Fall													
Wiley	Karen	Humanities & Social Sciences	1981 Fall	1981 Fall	1987 Fall		2003 Spg									1	1	1	1	1
Davis	Elizabeth Van Wie	Liberal Arts & Intl Studies	2009 Fall			2009 Fall														
Gaylord	Sylvia	Liberal Arts & Intl Studies	2007 Spg	2007 Spg																
Gianquitto	Tina	Liberal Arts & Intl Studies	2003 Fall	2003 Fall	2008 Fall															
Hancock	Kathleen	Liberal Arts & Intl Studies	2009 Fall	2009 Fall																
Moon	Suzanne	Liberal Arts & Intl Studies	2002 Fall	2002 Fall			2007 Sum													
Schneider	Jennifer	Liberal Arts & Intl Studies	2007 Fall	2007 Fall																
Camp	Tracy	Mathematical and Computer Sci	1998 Fall	1998 Fall	2000 Fall	2007 Fall														
Han	Qi	Mathematical and Computer Sci	2005 Fall	2005 Fall																

Last Name	First Name	Dept	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
McCabe	Clare	Chem Eng & Petr Refining																1	1	1								
Bunge	Annette	Chemical & Petr-Refining Eng	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3							
Shine	Annette	Chemical Eng & Petr Refining	1	1																								
Koh	Carolyn	Chemical Engineering																					2	2	2	2	2	
Voelker	Bettina	Chemistry & Geochemistry																			2	2	2	2	2	2	2	
Williams	Kim	Chemistry & Geochemistry												1	1	1	2	2	2	2	2	2	2	2	2	2	2	
Carey	Janis	Economics & Business												1	1	1	1	1	1									
Dahl	Carol	Economics & Business					3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Godesiabo	Joy	Economics & Business																							1	1	1	
Gurgur	Cigdem	Economics & Business																		1	1	1	1	1	1	1	1	
Katok	Elena	Economics & Business												1	1													
Khindanova	Irina	Economics & Business															1	1	1	1	1	1	1					
Maurer	Ruth	Economics & Business->Mathematics	2	2	2	2	2	2	2	2	2	2																
Newman	Alexandra	Economics & Business															1	1	1	1	1	1	1	2	2	2	2	
Semikolenova	Yadviga	Economics & Business																					1					
Gosink	Joan	Engineering					3	3	3	3	3	3	3	3	3	3	3	3	3									
Johnson	Kathryn	Engineering																					1	1	1	1	1	
Knox-Kelecy	Andrea	Engineering								1	1	1																
Silverman	Anne	Engineering																									1	
Wang	Judith	Engineering																						1	1	1	1	
Weiss	Manoja	Engineering																			1	1	1	1	1	1	1	
Brooks	Joan	Engineering / Basic Engineering																										
Carnell	Debra	Engineering / Basic Engineering																										
Gibbs	Elizabeth	Engineering / Basic Engineering																										
Willard	Beatrice	Environmental Science																										
Ahmann	Dianne	Environmental Science & Eng														1	1	1	1	1	1	1						
Dawson	Helen	Environmental Science & Eng						1	1	1	1	1	1	1														
Figuroa	Linda	Environmental Science & Eng					1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Marr	Junko Munakata	Environmental Science & Eng															1	1	1	1	1	1	1	2	2	2	2	
Booy	Emmy	Geology	2	2																								
Aschoff	Jennifer	Geology & Geological Eng																							1	1	1	
Harrison	Wendy	Geology & Geological Eng			1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Plink-Bjorklund	Piret	Geology & Geological Eng																				1	1	2	2	2	2	
Poeter	Eileene	Geology & Geological Eng			1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Zhou	Wei (Wendy)	Geology & Geological Eng																							2	2	2	
Skokan	Catherine	Geophysics->Engineering	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Alexander	Julia Ann	Humanities & Social Sciences																										
Cannon	Betty Jo	Humanities & Social Sciences	1	2	2	2	2	2	2	2	2	2																
Hackos	Joann	Humanities & Social Sciences																										
Ochs	Kathleen	Humanities & Social Sciences	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2									
Olds	Barbara	Humanities & Social Sciences	1	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Pang	Laura	Humanities & Social Sciences			1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Wiley	Karen	Humanities & Social Sciences	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2									
Davis	Elizabeth Van Wie	Liberal Arts & Intl Studies																								3	3	
Gaylord	Sylvia	Liberal Arts & Intl Studies																					1	1	1	1	1	
Gianquitto	Tina	Liberal Arts & Intl Studies																		1	1	1	1	1	2	2	2	
Hancock	Kathleen	Liberal Arts & Intl Studies																								1	1	
Moon	Suzanne	Liberal Arts & Intl Studies																	1	1	1	1	1					
Schneider	Jennifer	Liberal Arts & Intl Studies																							1	1	1	1
Camp	Tracy	Mathematical and Computer Sci													1	1	2	2	2	2	2	2	2	3	3	3	3	
Han	Qi	Mathematical and Computer Sci																					1	1	1	1	1	1

Last Name	First Name	Dept	Start	Assistant	Associate	Professor	Left	Changed Dept	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Hering	Amanda	Mathematical and Computer Sci	2009 Fall	2009 Fall																
Moskal	Barbara	Mathematical and Computer Sci	1999 Fall	1999 Fall	2004 Fall	2008 Fall														
Murphy	Robin	Mathematical and Computer Sci	1992 Fall	1992 Fall			1998 Sum													
Polycarpou	Irene	Mathematical and Computer Sci	2008 Fall	2008 Fall																
Pratt	Lorien	Mathematical and Computer Sci	1992 Fall	1992 Fall			1996 Spg													
Qui	Jingmei	Mathematical and Computer Sci	2008 Fall	2008 Fall																
Bath	Barbara	Mathematics	1987 Fall		1987 Fall		2003 Fall													
Bell	Jean	Mathematics	1983 Fall	1983 Fall	1989 Fall		1998 Spg											1	1	1
Hundhausen	Joan	Mathematics	1975 Fall	1975 Fall	1981 Fall		1998 Spg		1	1	1	1	1	1	1	2	2	2	2	2
Oslund	Sally	Mathematics	1981 Fall	1981 Fall			1984 Spg									1	1	1		
Packard	Corrine	Metallurgical & Materials Eng	2010 Fall	2010 Fall																
Graves	Ramona	Petroleum Engineering	1981 Fall	1981 Fall	1986 Fall	2004 Fall										1	1	1	1	1
Miskimins	Jennifer	Petroleum Engineering	2003 Fall	2003 Fall	2008 Fall															
Prasad	Manika	Petroleum Engineering	2007 Fall		2007 Fall															
Tutuncu	Azra	Petroleum Engineering	2010 Fall			2010 Fall														
Hofstee	Mariet	Physics	1995 Fall	1995 Fall			2003 Sum													
Sutter	Eli	Physics	2001 Spg	2001 Spg			2004 Fall													
Professor							Prof		0	0	0	1	1	1	1	1	1	0	0	0
Associate Professor							Assoc		0	0	0	0	0	0	0	1	1	3	3	4
Assistant Professor							Assist		1	2	3	4	5	5	5	12	13	11	9	7
TOTAL							TOTAL		1	2	3	5	6	6	6	14	15	14	12	11

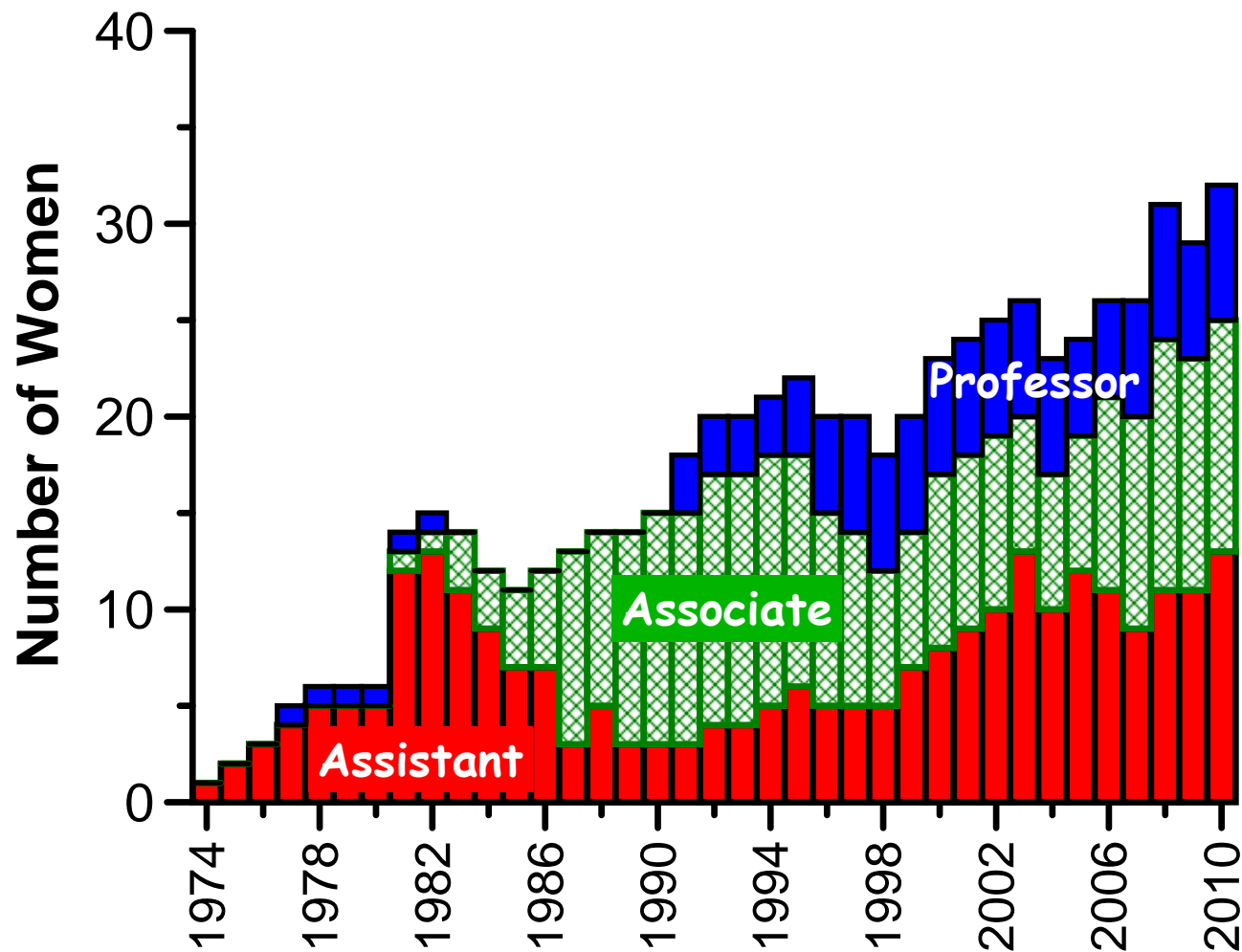
Last Name	First Name	Dept	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Hering	Amanda	Mathematical and Computer Sci																								1	1	
Moskal	Barbara	Mathematical and Computer Sci															1	1	1	1	1	2	2	2	2	3	3	3
Murphy	Robin	Mathematical and Computer Sci							1	1	1	1	1	1														
Polycarpou	Irene	Mathematical and Computer Sci																							1	1	1	
Pratt	Lorien	Mathematical and Computer Sci							1	1	1	1																
Qui	Jingmei	Mathematical and Computer Sci																							1	1	1	
Bath	Barbara	Mathematics		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2							
Bell	Jean	Mathematics	1	1	1	2	2	2	2	2	2	2	2	2														
Hundhausen	Joan	Mathematics	2	2	2	2	2	2	2	2	2	2	2	2														
Oslund	Sally	Mathematics																										
Packard	Corrine	Metallurgical & Materials Eng																									1	
Graves	Ramona	Petroleum Engineering	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Miskimins	Jennifer	Petroleum Engineering																		1	1	1	1	1	2	2	2	
Prasad	Manika	Petroleum Engineering																						2	2	2	2	
Tutuncu	Azra	Petroleum Engineering																									3	
Hofstee	Mariet	Physics										1	1	1	1	1	1	1	1	1								
Sutter	Eli	Physics															1	1	1	1	1							
Professor			0	0	0	0	0	3	3	3	3	4	5	6	6	6	6	6	6	6	6	5	5	6	7	6	7	
Associate Professor			5	10	9	11	12	12	13	13	13	12	10	9	7	7	9	9	9	7	7	7	10	11	13	12	12	
Assistant Professor			7	3	5	3	3	3	4	4	5	6	5	5	5	7	8	9	10	13	10	12	11	9	11	11	13	
TOTAL			12	13	14	14	15	18	20	20	21	22	20	20	18	20	23	24	25	26	23	24	26	26	31	29	32	

Total Number of Faculty



Academic Year
1974 - 2010

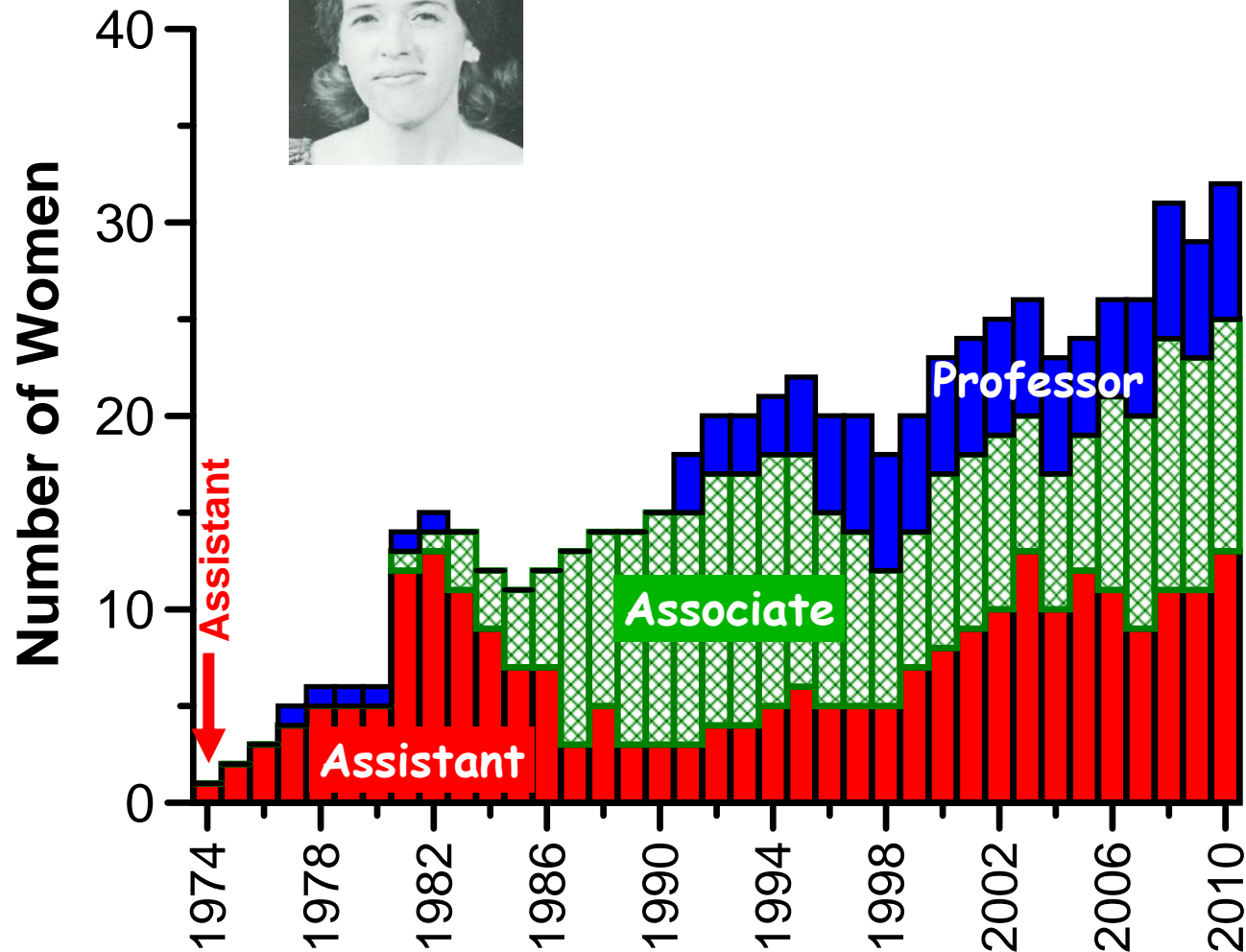
Women Professors Since 1974



Number of Women Professors Since 1974 & Firsts

Julia Ann Alexander

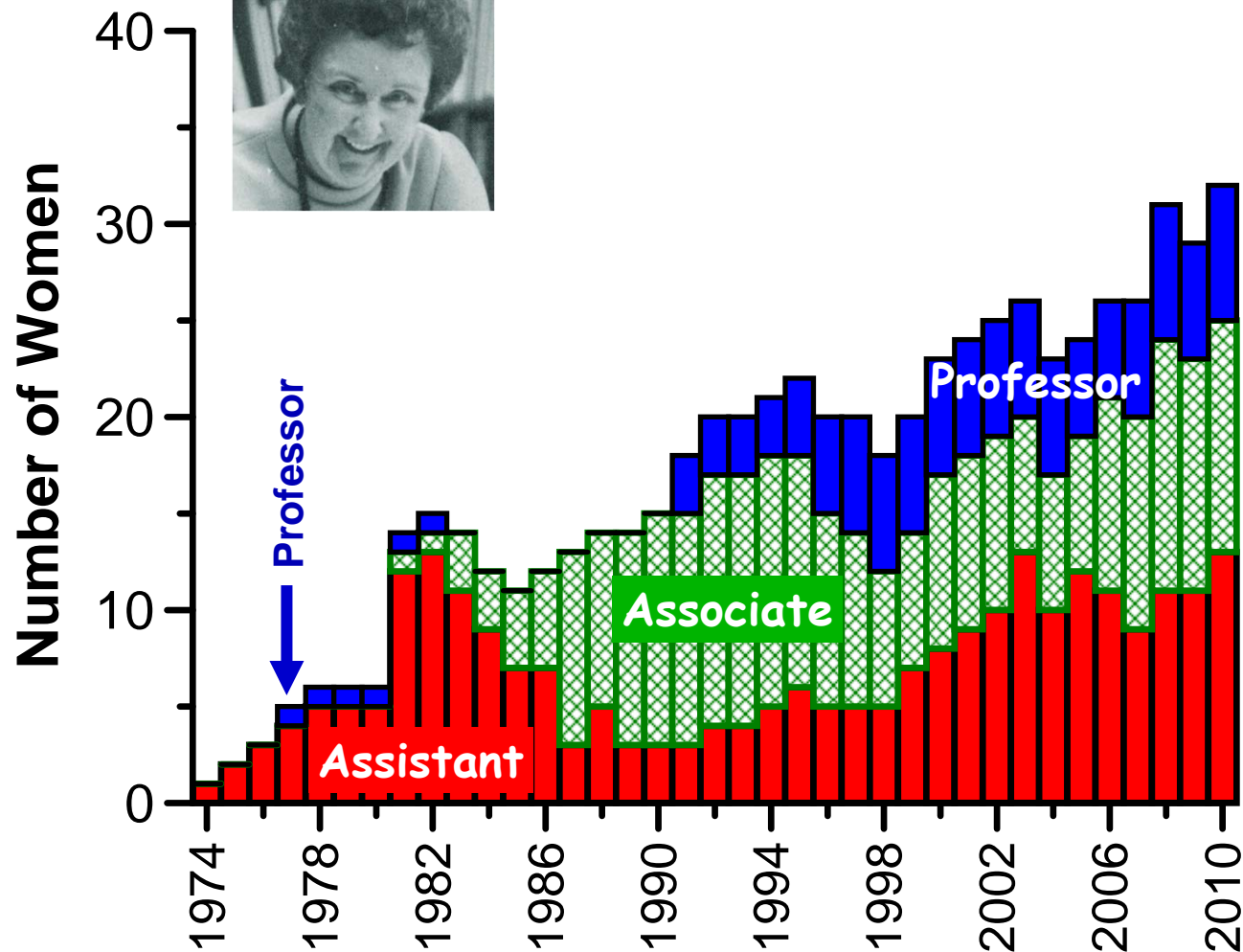
Humanities & Social Sciences



Number of Women Professors Since 1974 & Firsts

Beatrice Willard

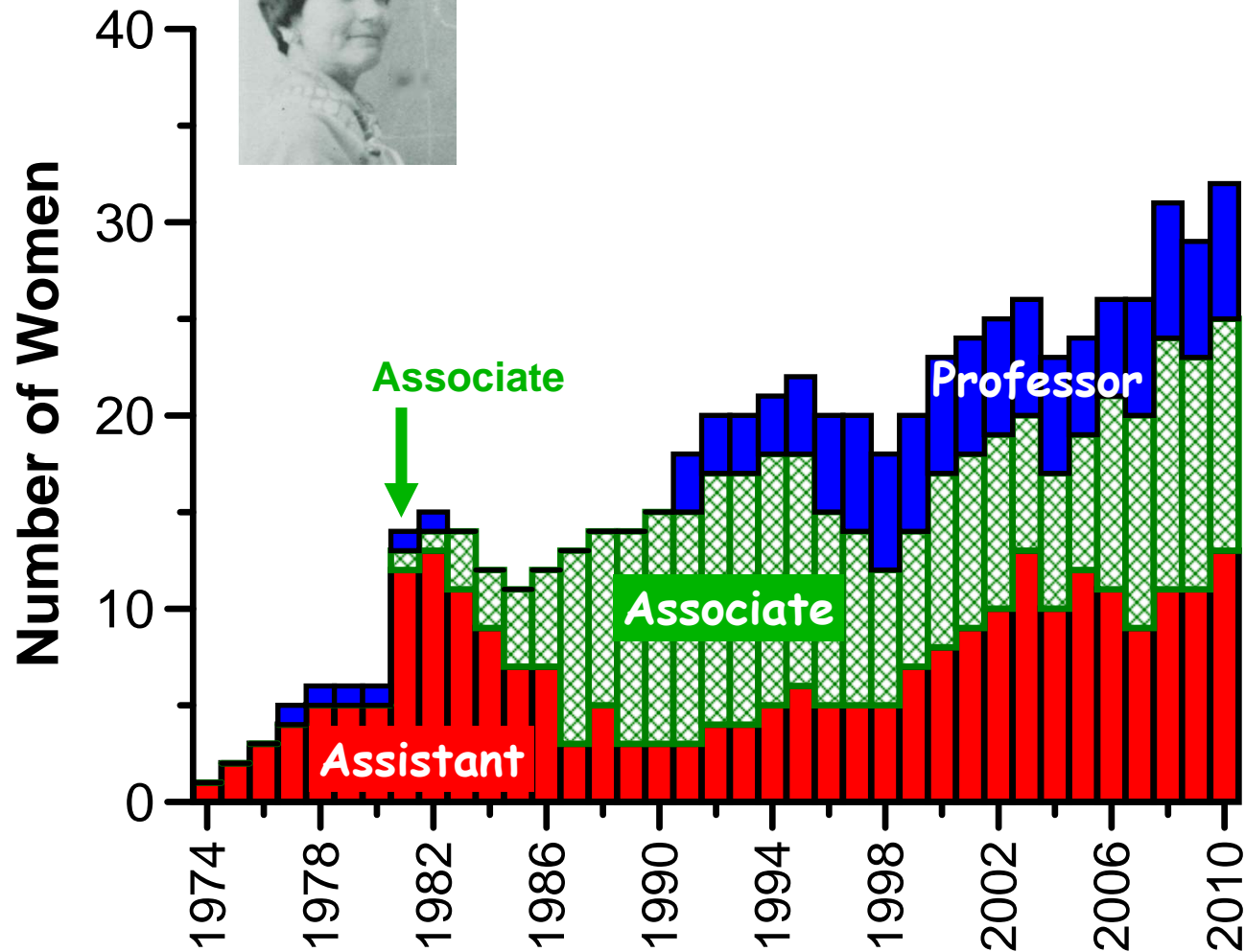
Environmental Sciences
& Engineering Ecology



Number of Women Professors Since 1974 & Firsts

Joan Hundhausen

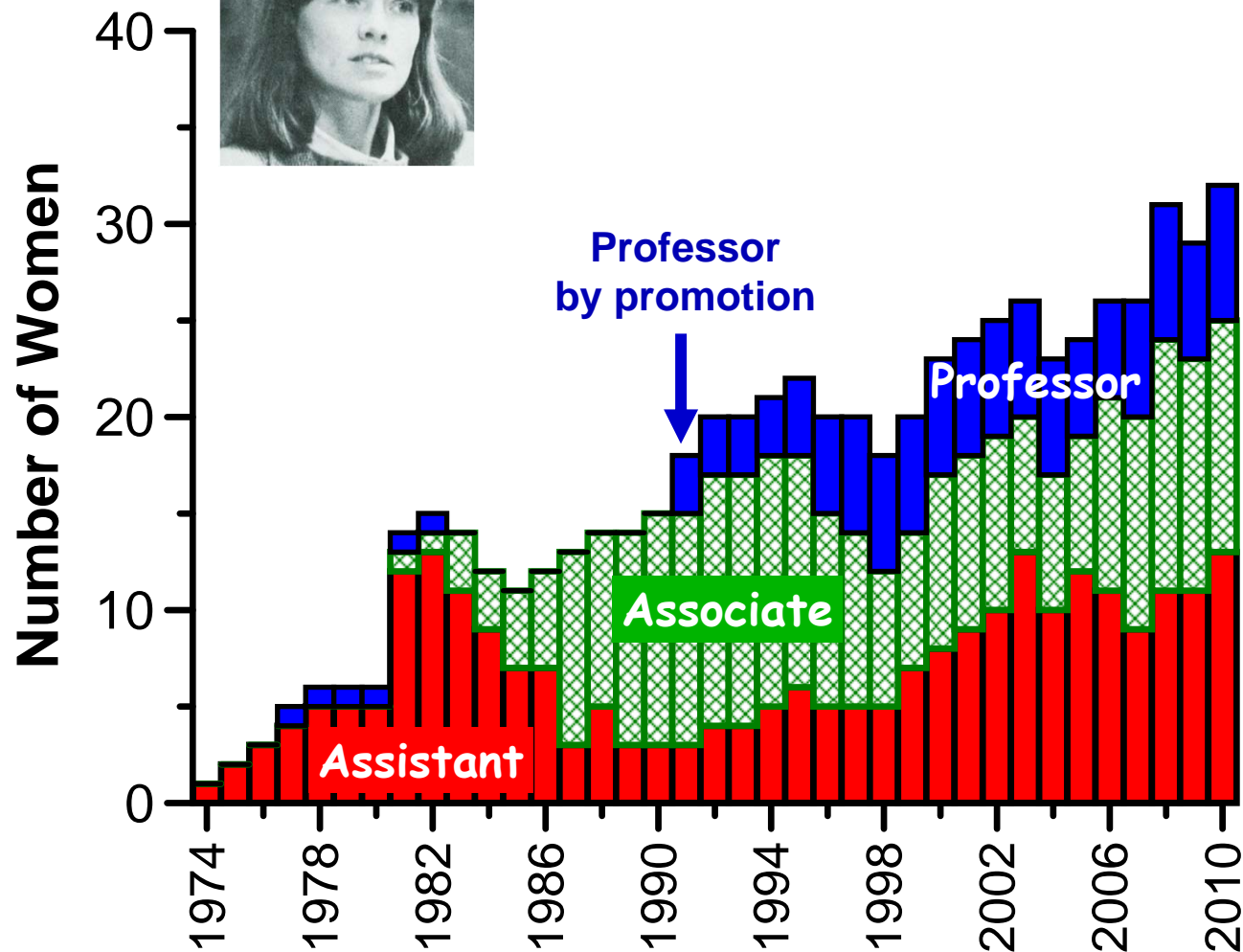
Mathematics



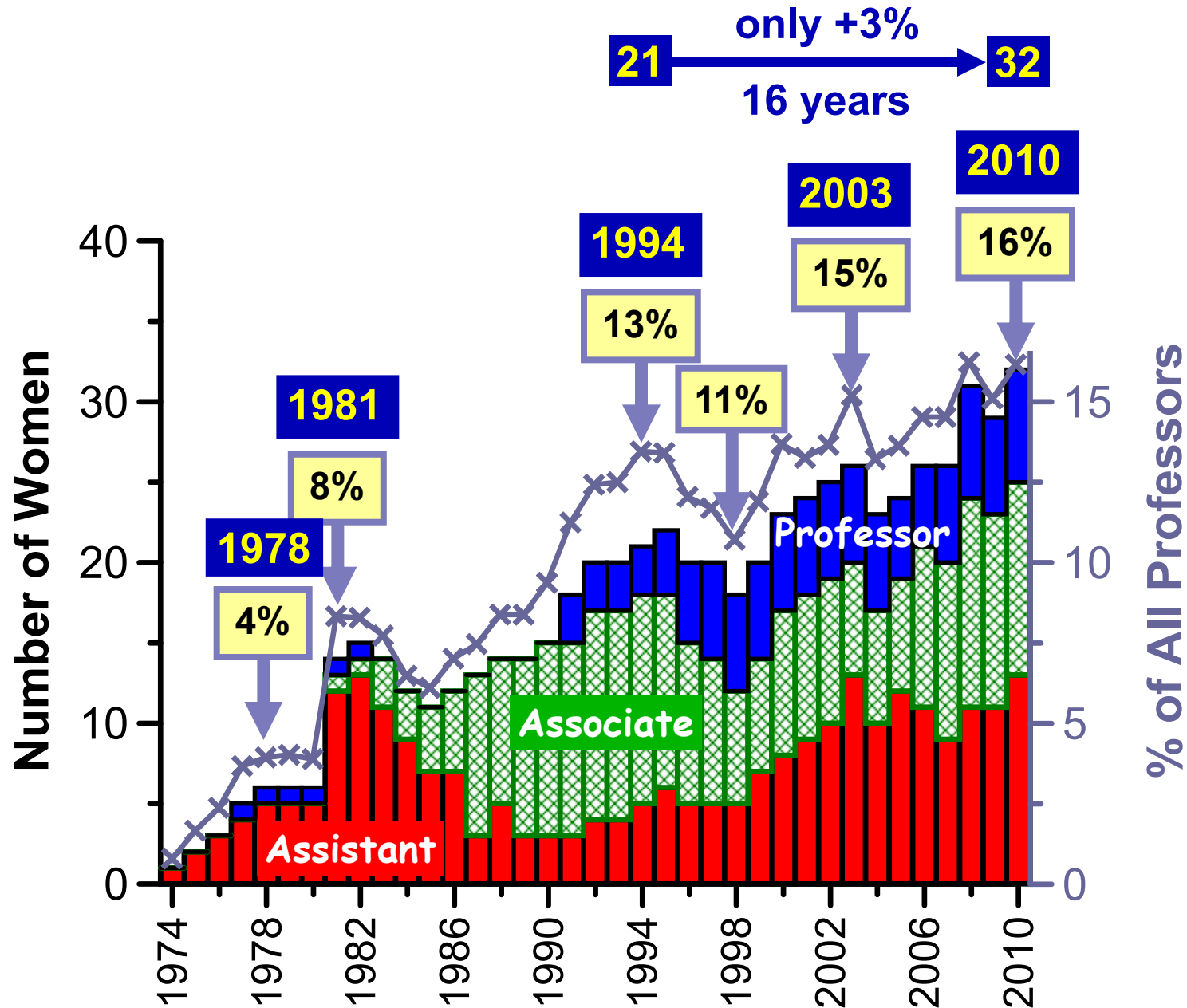
Number of Women Professors Since 1974 & Firsts

Annette Bunge

Chemical Engineering



Number of Women Professors Since 1974



Number of Women Professors Since 1974

Science, Engineering, Math

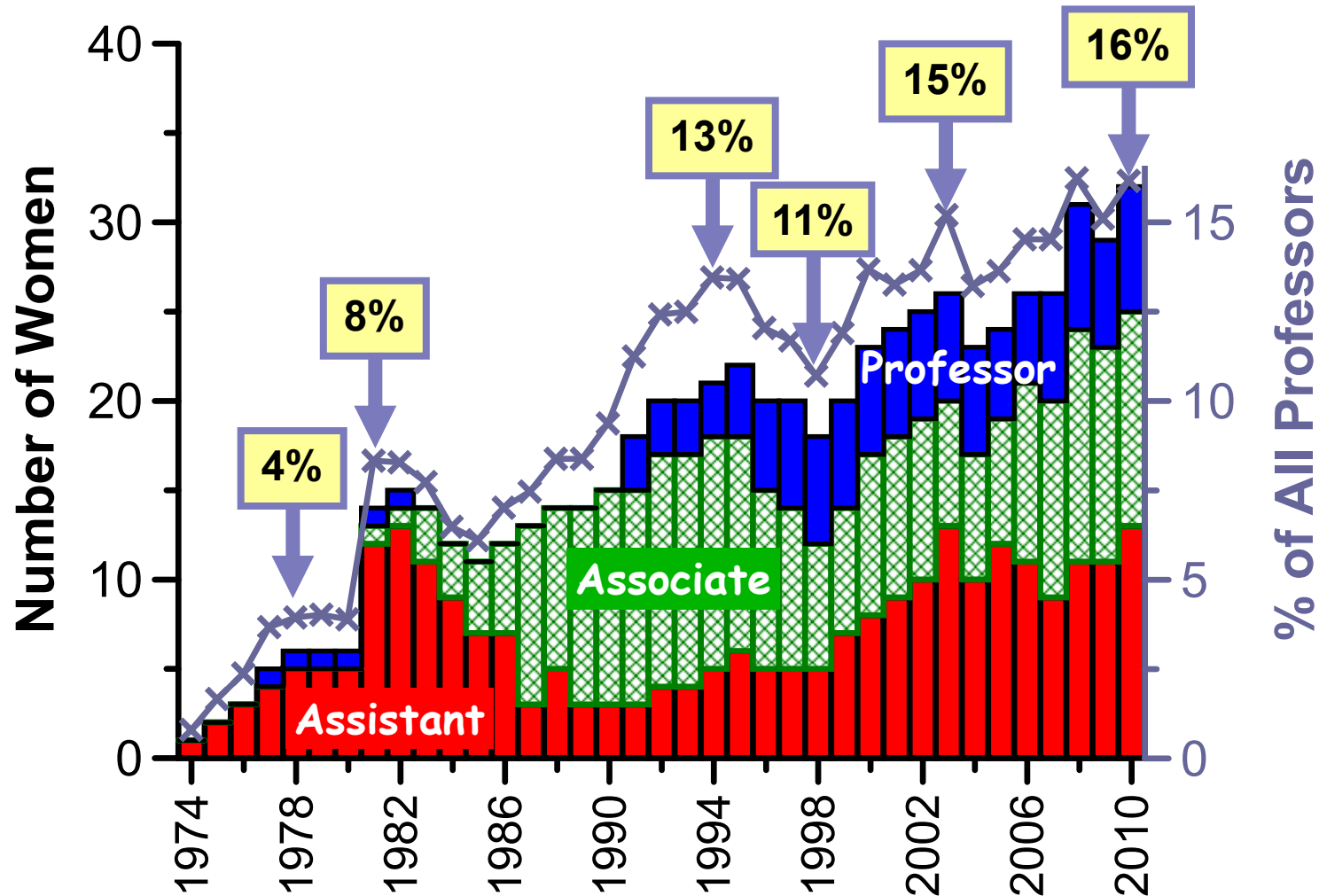
1994 – 10%

2010 – 12%

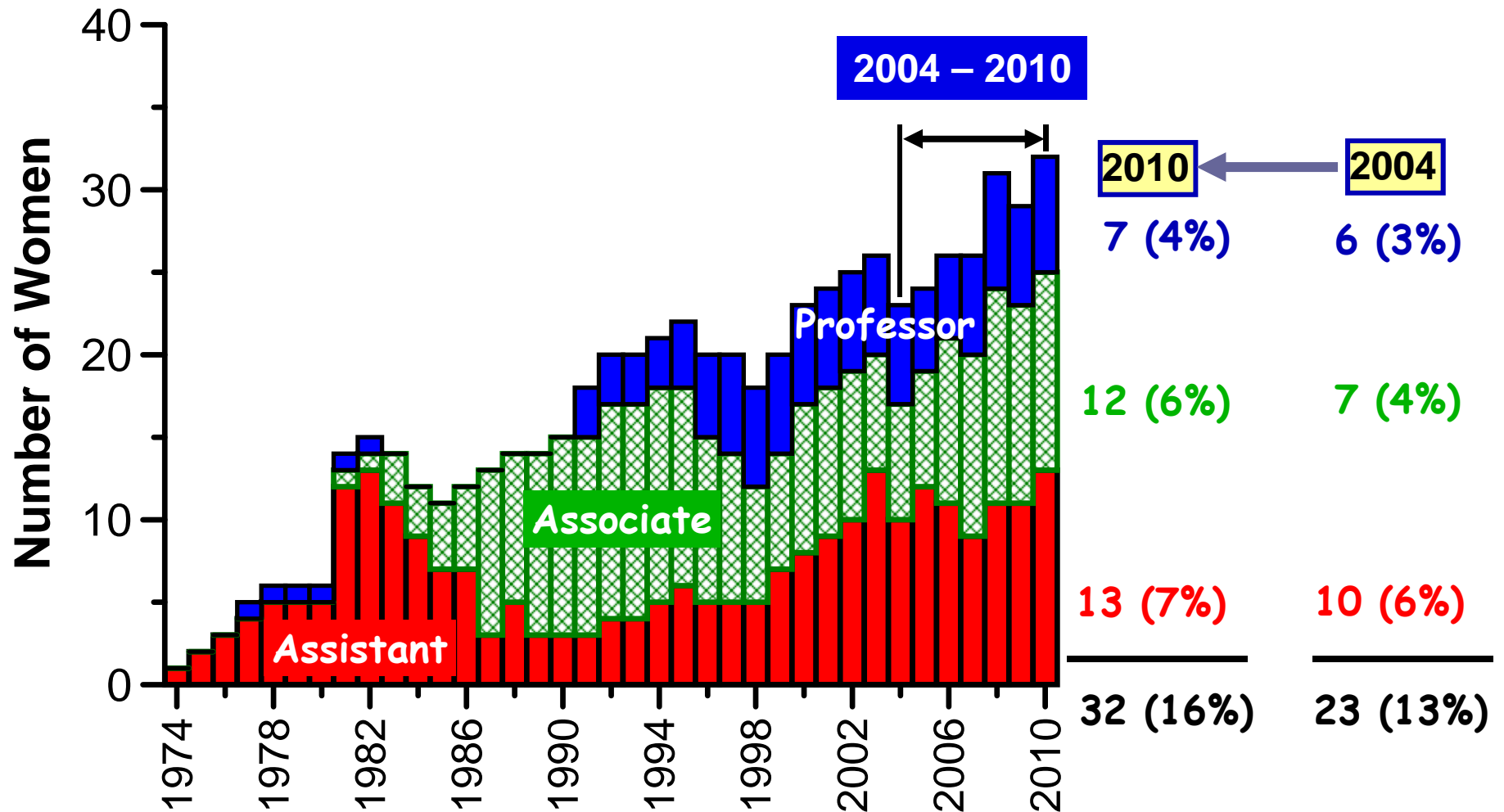
MIT (1995 – 2010)

Science: 8% to 19%

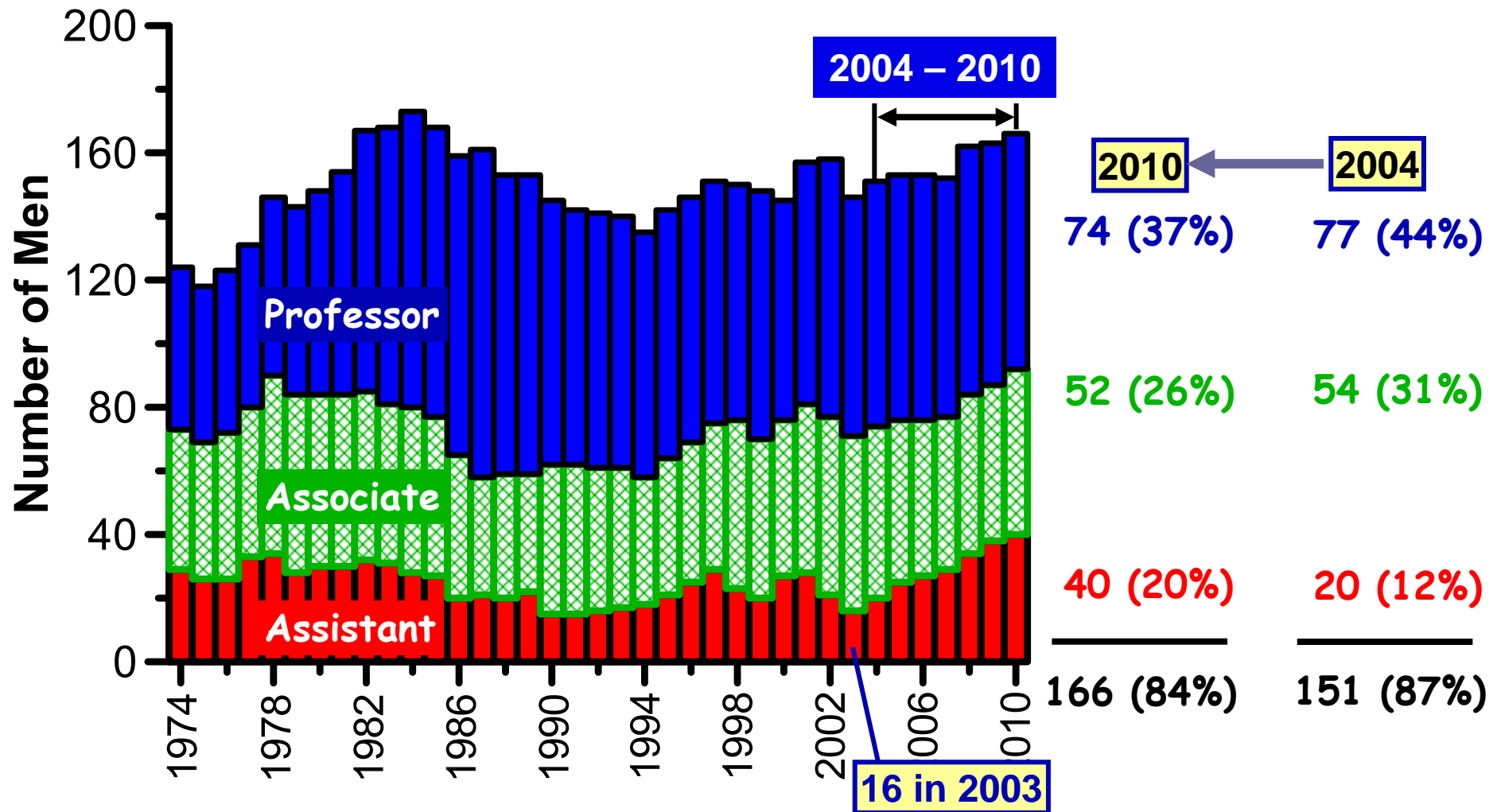
Engineering: 7% to 16%



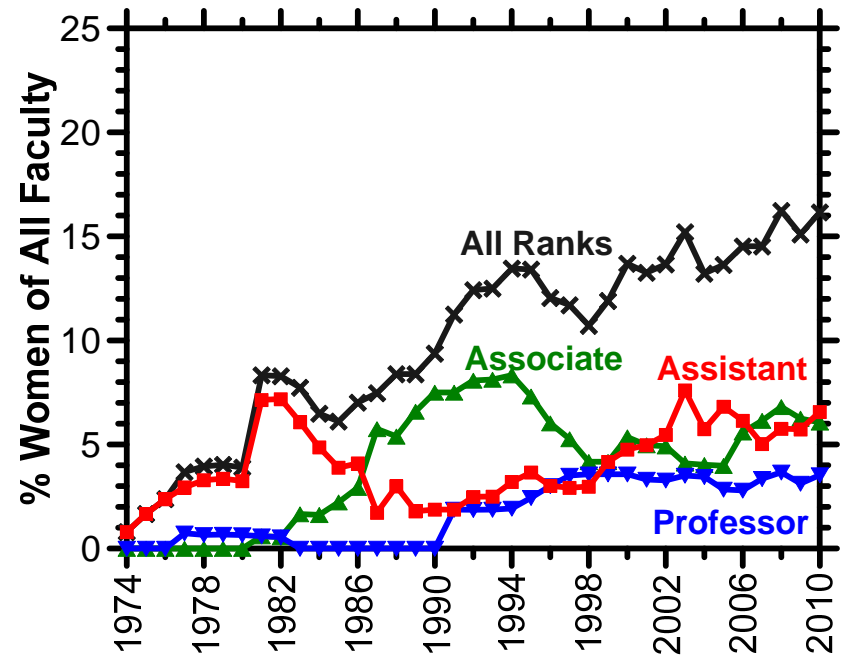
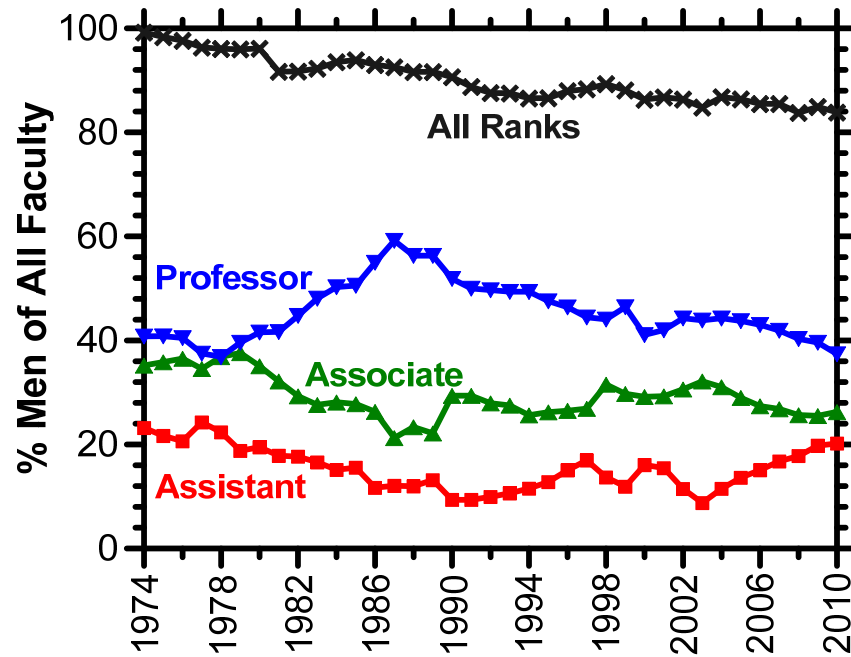
Number of Women Professors Since 1974



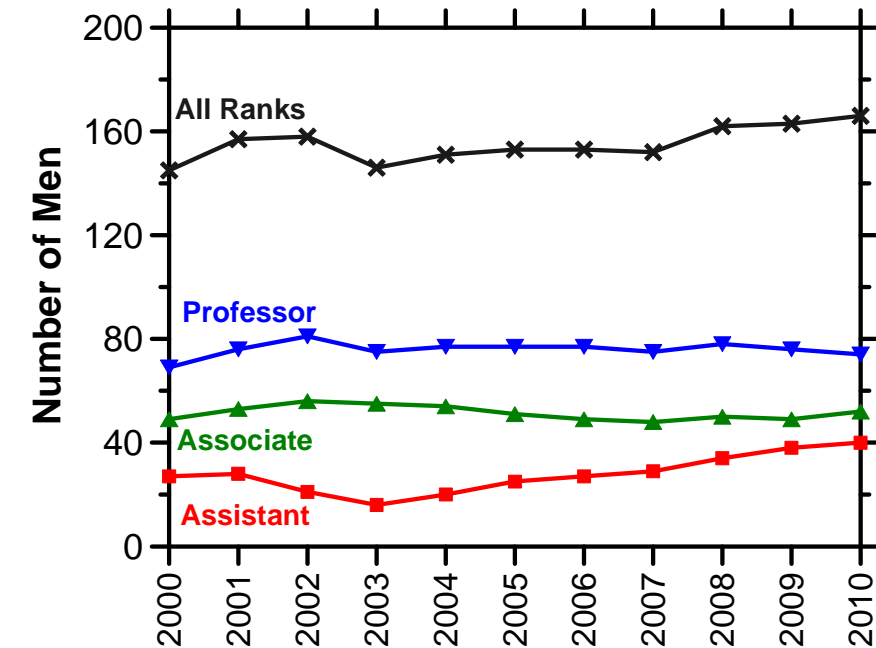
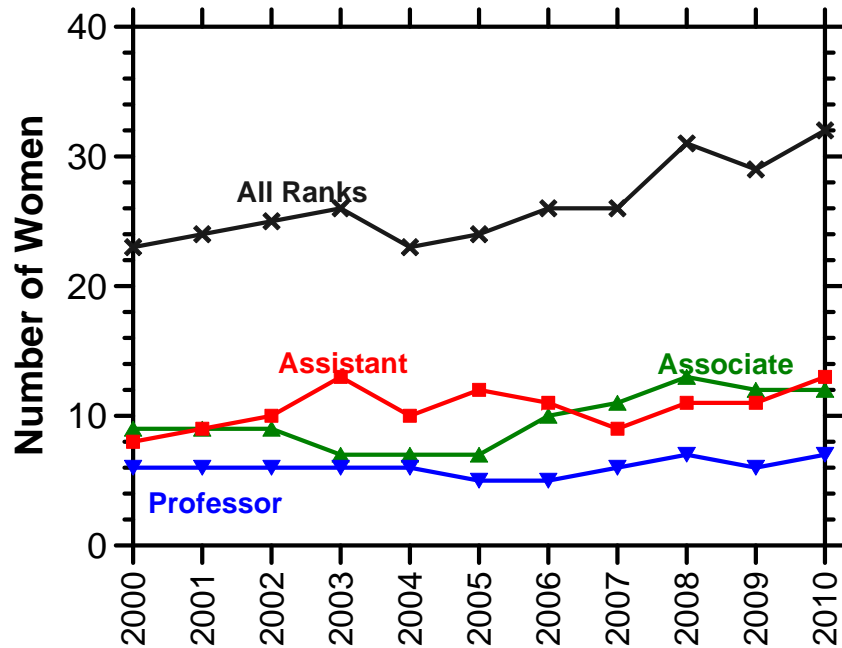
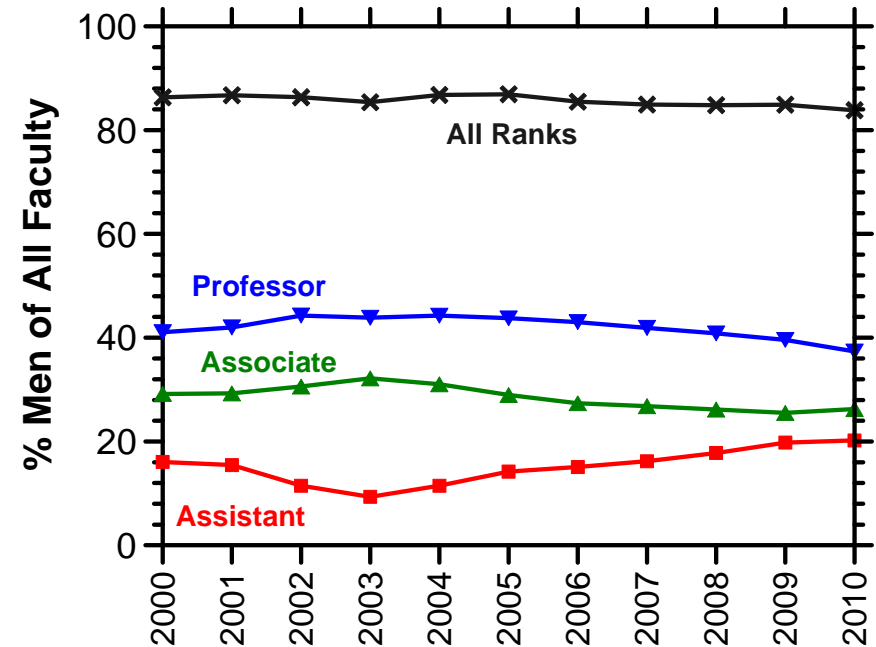
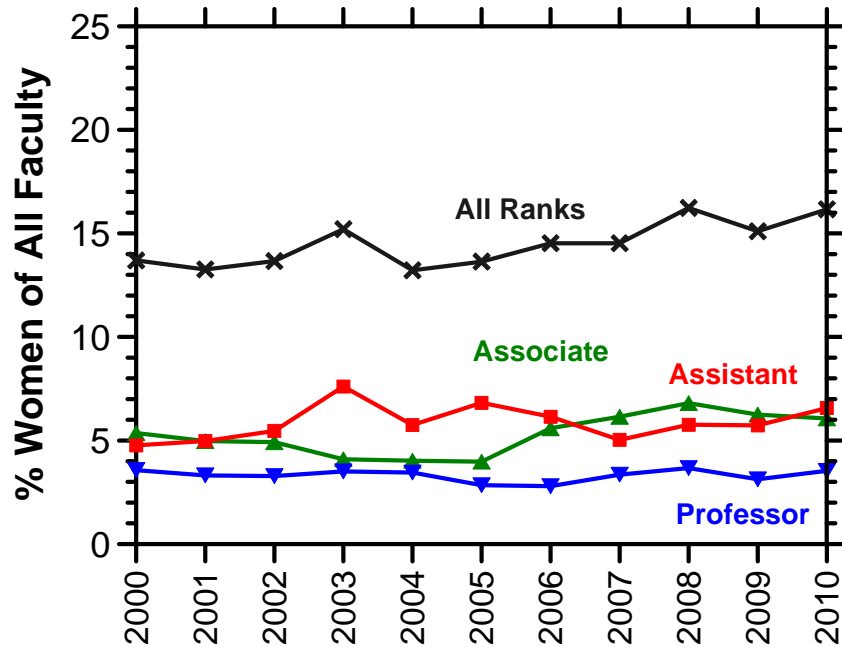
Number of Men Professors Since 1974



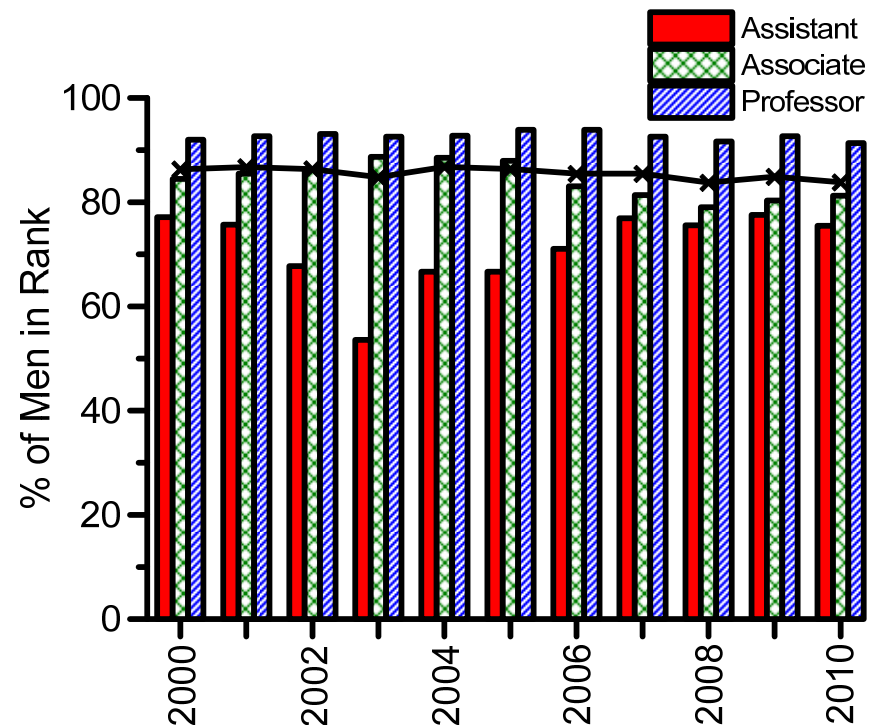
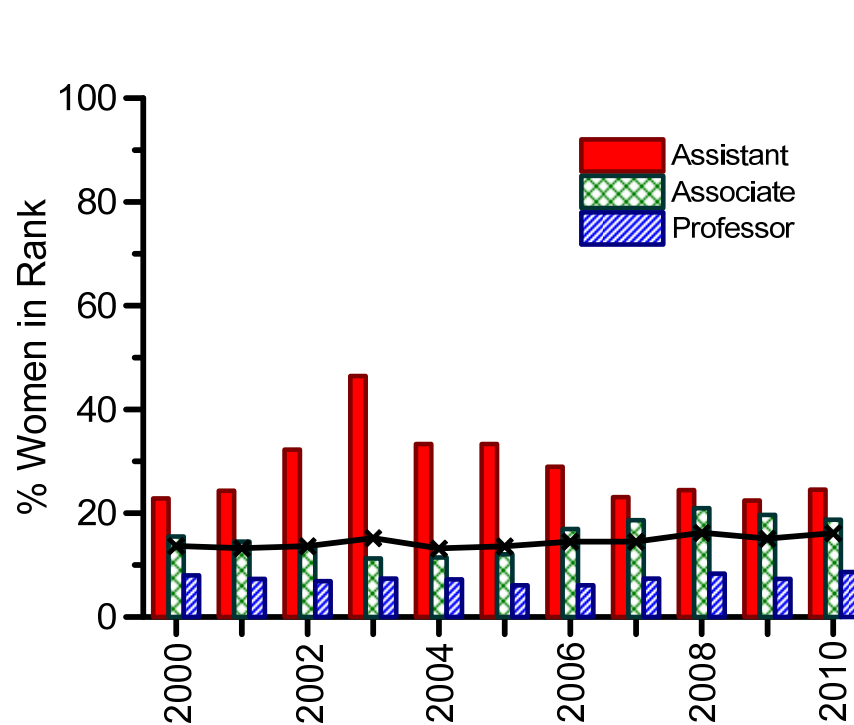
Percent of All Professors By Rank Since 1974



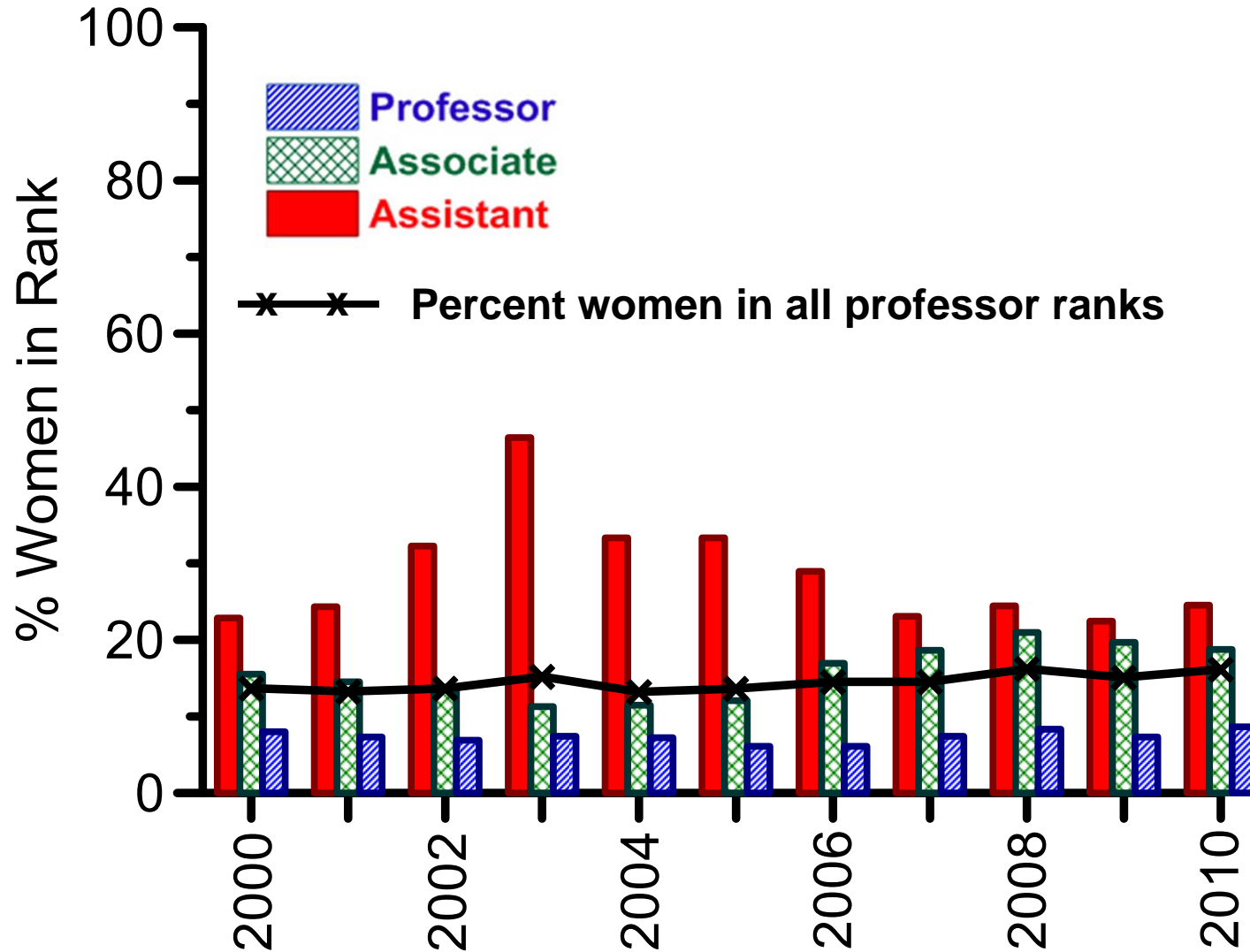
Number & Percent of All Professors By Rank Since 2000



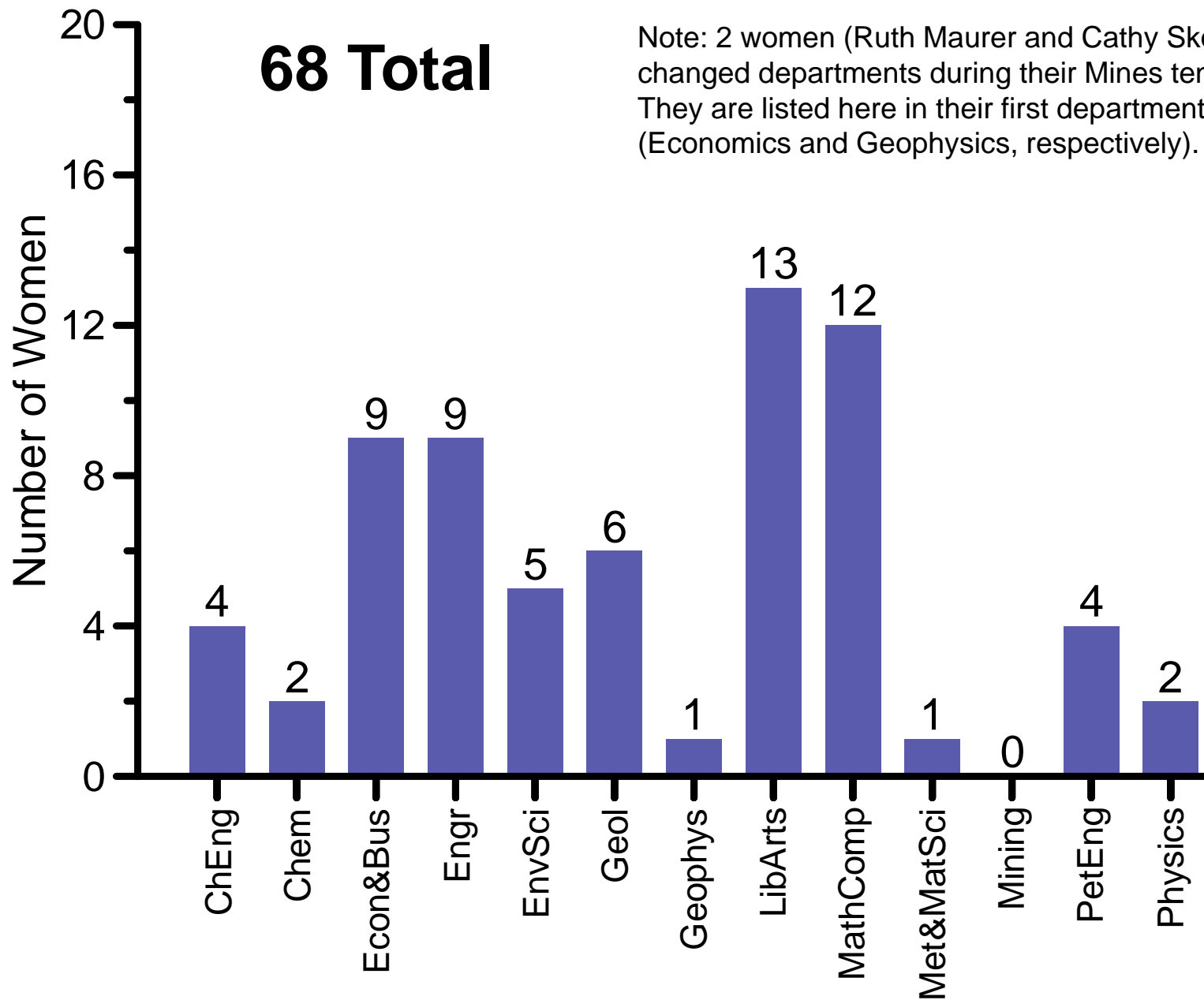
Percent of Women or Men in Each Professor Rank



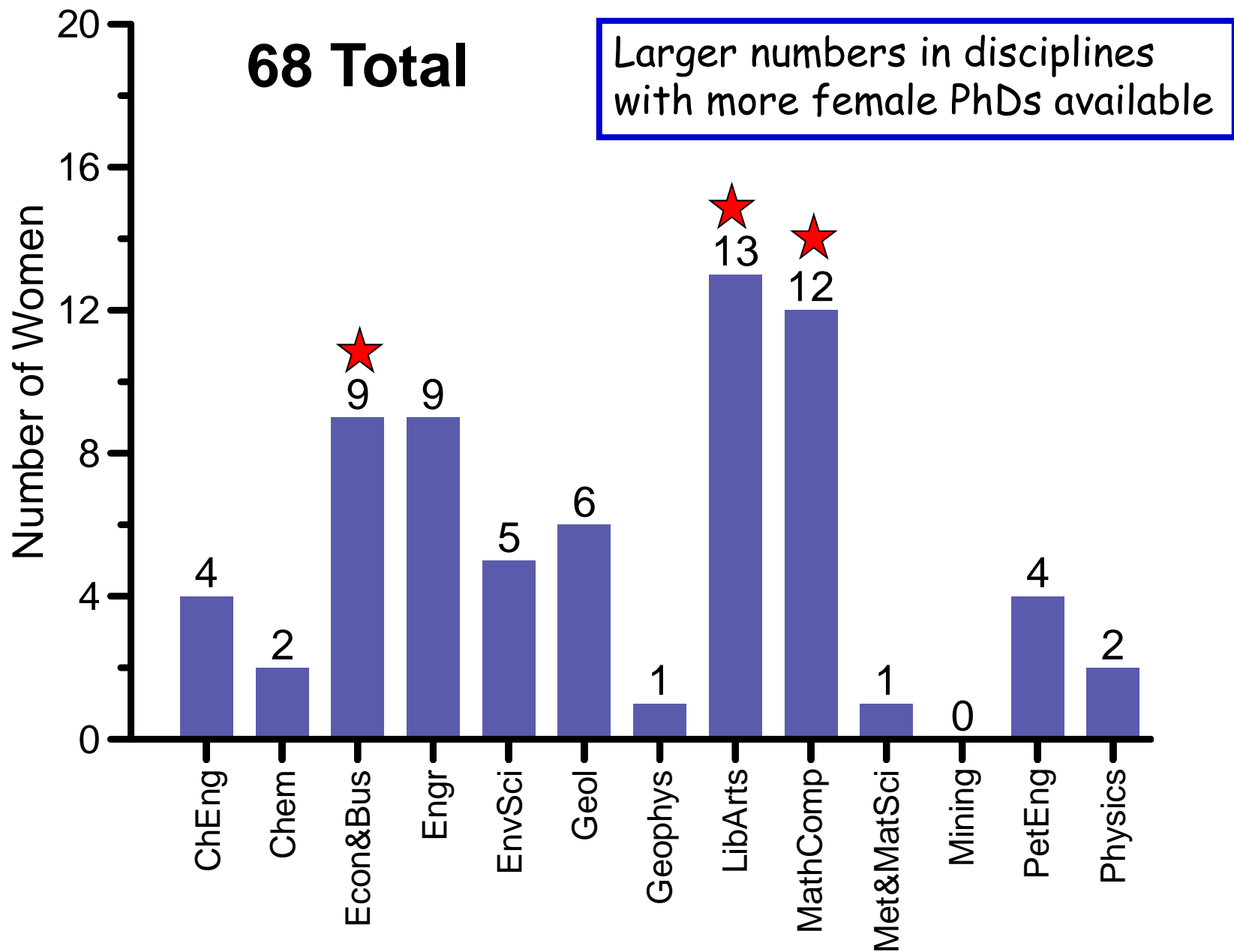
Percent of Women in Each Professor Rank



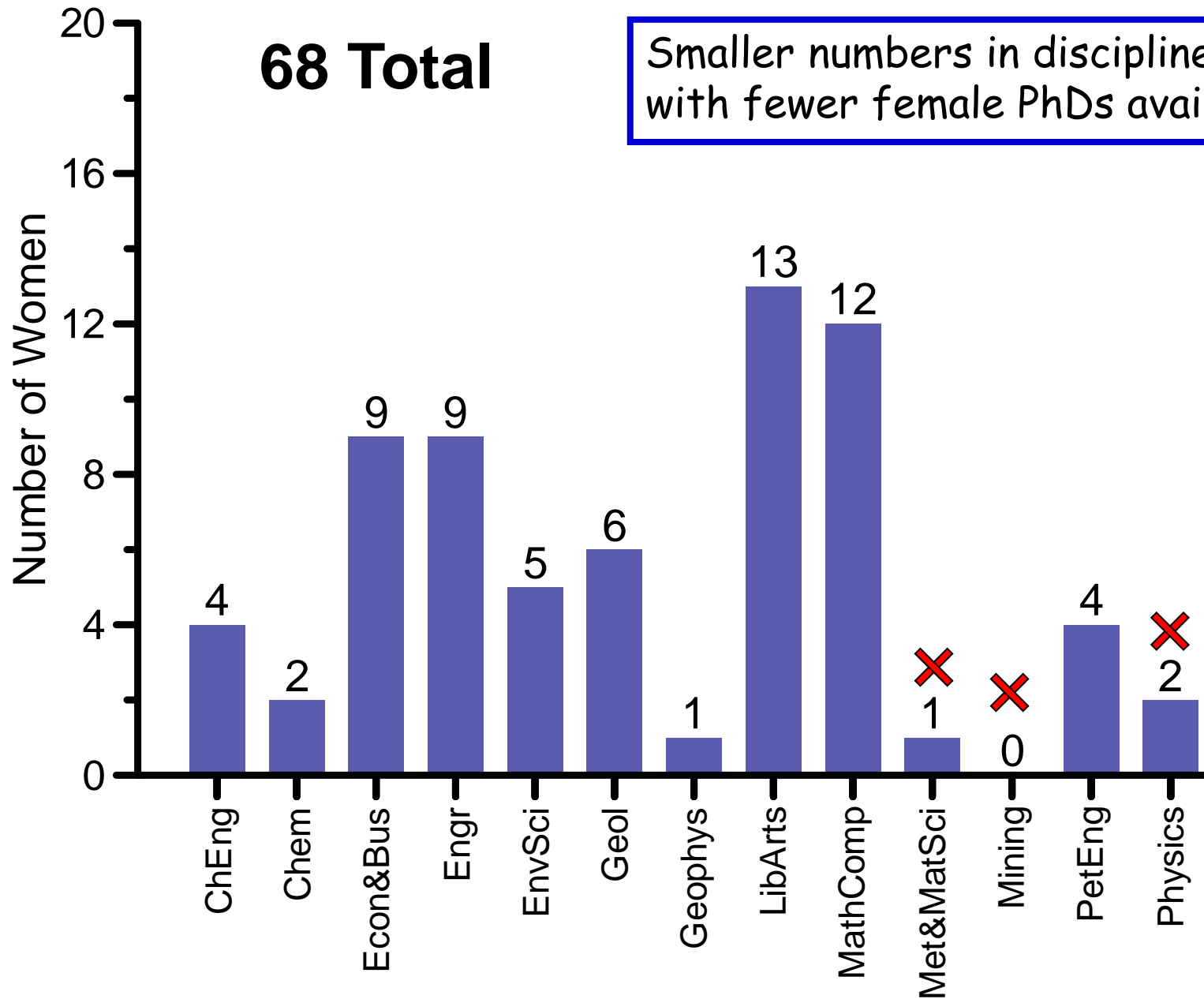
All Women Professors 1974-2010



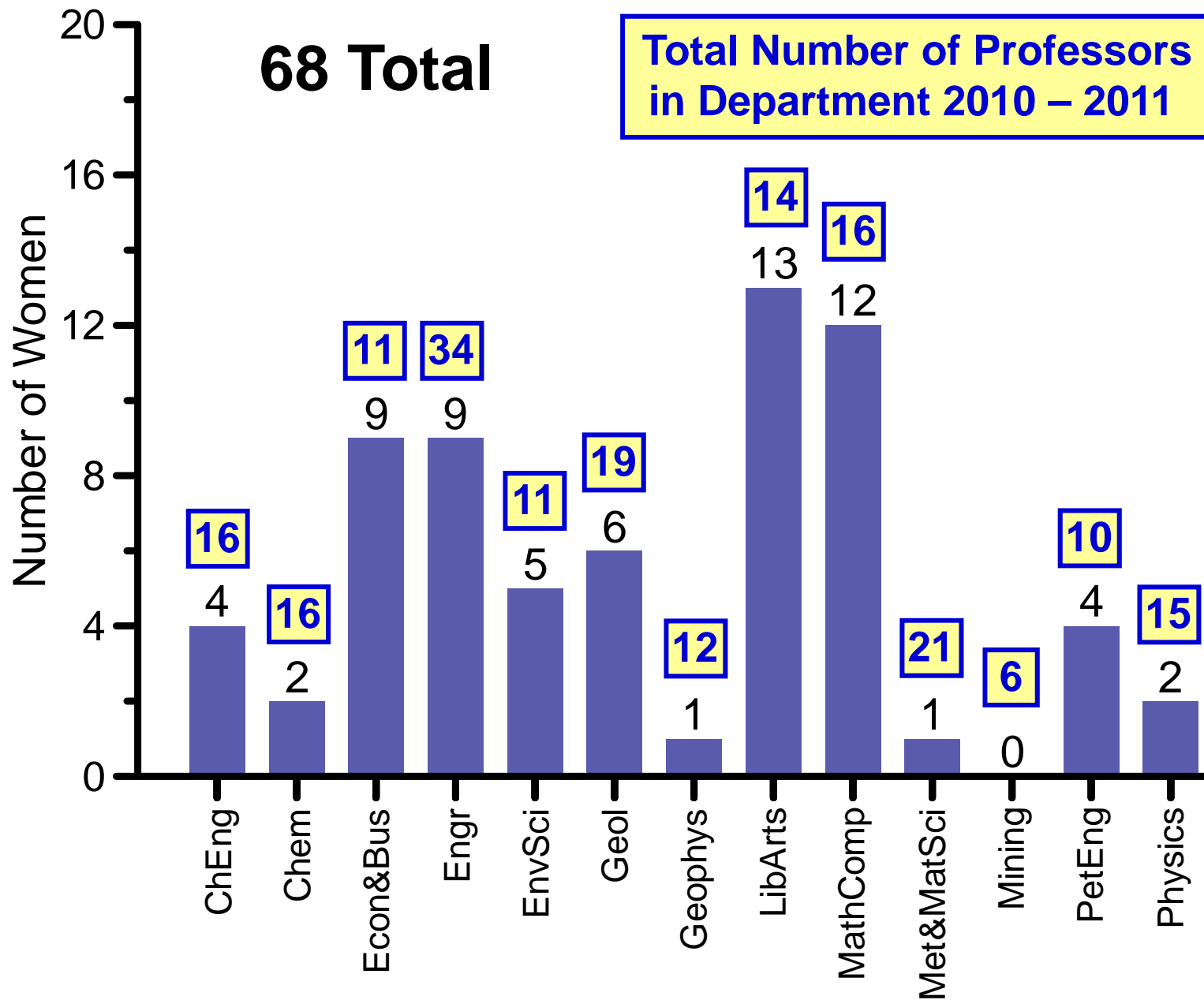
All Women Professors 1974-2010



All Women Professors 1974-2010



All Women Professors 1974-2010



Number of Women Faculty By Year

