

## JANET DEGRAZIA

Associate Chair and Senior Instructor

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### PROFESSIONAL EXPERIENCE

Associate Chair, Chemical and Biological Engineering, University of Colorado, 7/06 - present  
Senior Instructor, Chemical and Biological Engineering, University of Colorado , 8/02 - present  
Director of Outreach, Integrated Teaching and Learning Laboratory, 3/00 – 8/02  
Senior Instructor, Chemical and Mechanical Engineering, University of Colorado , 3/00 – 8/02  
Postdoctoral Fellow in SMET Education, Integrated Teaching and Learning Laboratory, 9/98 – 8/01

### EDUCATION

Ph.D. in Chemical Engineering, May 1998, University of Colorado  
M.S. in Chemical Engineering, May 1994, University of Colorado  
B.A. in Art History, May 1977, Barnard College

### HONORS AND AWARDS

CU Alumni Association Teacher Recognition Award, 2007  
Outstanding Undergraduate Mentor, Chemical and Biological Engineering. 2007  
Outstanding Teacher, ASEE Rocky Mountain Section, 2006  
Residence Life Academic Teaching Award, 2006, 2005, 2004  
Best Zone Paper, ASEE National Conference, 2005  
Best Paper, ASEE Rocky Mountain Section, 2005  
Best Paper, ASEE Zone IV Region, 2005  
Charles Hutchinson Teaching Award, 2004  
Outstanding Undergraduate Mentor, Chemical and Biological Engineering, 2004  
Faculty Appreciation Award, 2003, Multicultural Engineering Program  
Outstanding Undergraduate Teacher, Chemical Engineering, 2003  
Best Paper, Frontiers in Education Conference, 1999, 2000  
“Professor Who Makes A Difference”, Mechanical Engineering, Spring 2000  
Sullivan-Carlson Innovation in Teaching Award, Fall 1999  
NSF Postdoctoral Fellowship for Research in Education, September 1998  
Dean’s Small Grant, May 1997, September 1995  
Outstanding Part-time Graduate Instructor, University of Colorado at Boulder , May 1996  
Department of Defense Graduate Student Fellowship, September 1995 - May 1998  
Patricia Roberts Harris Fellowship, September 1993 - September 1995  
Outstanding Teaching Assistant, Chemical Engineering 1993  
Protected Class Fellowship, January 1992  
PREP Fellowship, January 1991 - September 1993

### PUBLICATIONS

deGrazia, J.L., Sullivan, J.F., Carlson, L.E. and Carlson, D.W. (2001), “A K-12 / University Partnership: Creating Tomorrow’s Engineers,” *Journal of Engineering Education*, October 2001.  
deGrazia, J.L., (2001), “Engineering Workshops for K-12 Schoolteachers,” *Proceedings*, 2001 Frontiers in Education Conference, paper #1297.  
deGrazia, J.L., Sullivan, J.F., Aragon , D.J. and Matthews, J.M. (2001), “*Success Institute*: Expanding the Pool of Under-Represented Minority Engineering Students,” *Proceedings*, 2001 Frontiers in Education Conference, paper #1293.  
deGrazia, J.L., Sullivan, J.F., Carlson, L.E. and Carlson, D.W. (2000), “Engineering in the K-12 Classroom: A Partnership that Works,” *Proceedings*, 2000 Frontiers in Education Conference.

- Sullivan, J.F., deGrazia, J.L., Davis, S.E. and Carlson, L.E. (1999), "Innovation in Everyday Life: Making Engineering Come Alive for the K-12 Community," *Proceedings*, 1999 National Collegiate Inventors and Innovators Alliance Annual National Conference, Washington, DC.
- Sullivan, J.F., Davis, S.E., deGrazia, J.L. and Carlson, D.W. (1999), "Beyond the Pipeline: Building a K-12 Engineering Outreach Program," *Proceedings*, 1999 Frontiers in Education Conference.
- Poole, S.J., deGrazia, J.L. and Sullivan, J.F. (1999), "Assessing K-12 Pre-Engineering Outreach Programs," *Proceedings*, 1999 Frontiers in Education Conference.
- deGrazia, J.L., Randolph, T.W. and Johnston, K.P. (1999), "Surfactants for Supercritical Fluids" in *Chemical Synthesis Using Supercritical Fluids*, Jessop and Leitner, eds. Wiley.
- deGrazia, J.L., O'Brien, J. and Randolph, T.W. (1998), "Rotational Relaxation in Supercritical Carbon Dioxide Revisited: A Study of Solute-Induced Local Density Augmentation," *J. Phys. Chem. A*, 102, 1674-1681.
- Heitz, M.P., Carlier, C., deGrazia, J.L., Harrison, K.L., Johnston, K.P., Randolph, T.W., Bright, F.V. (1997), "Water Core within Perfluoropolyether-Based Microemulsions Formed in Supercritical Carbon Dioxide," *J. Phys. Chem. B*, 101, 6707-6714.
- Ascentiis, A.D.; deGrazia, J.L.; Bowman, C.N.; Colombo, P. (1995), "Mucoadhesion of poly(2-hydroxyethyl methacrylate) is improved when linear poly(ethylene oxide) chains are added to the polymer network," *Journal of Controlled Release*, 33, 197-200.
- deGrazia, J.L. and Bowman, C.N. (1995), "Settling Characteristics of Microparticles Modified by Hydrophilic Semi-Interpenetrating Polymer Networks," *J. Appl. Polymer Sci.*, 55, 793-805.

#### **SYNERGISTIC ACTIVITIES:**

- Member of FCQ development and filtering committee
- Created and taught a senior-level thermodynamics course that combined an energy conservation theme with a hands-on design and build emphasis, and received the highest possible rating by her students, as well as a student-voted award
- Designed and taught professional development workshops for K-12 teachers that use engineering to provide standards-based curriculum for science and math classes
- Starred in week-long television series "ABC's of Engineering" for 3rd - 5th grade students and teachers
- Managed independent study and funded university students from mechanical engineering, who assisted her in designing, building and disseminating experimental modules developed for K-12 classrooms, resulting in specially created "Professor Who Makes A Difference" award
- Furnished engineering curriculum and support for CU's Pre-Collegiate and American Indian Upward Bound, summer workshops that provide academic opportunities for 12th grade students of color
- Winner of "Best Paper" award twice at the national Frontiers in Education conferences
- Winner of "Best Paper" at sectional, regional and national American Society of Engineering Education conferences
- Winner of numerous teaching and mentoring awards, including college-wide innovation in teaching award, college-wide teaching and education award, faculty appreciation award from Multicultural Engineering Program, outstanding faculty undergraduate teaching award in both Chemical and Mechanical Engineering, outstanding faculty mentor in Chemical Engineering, outstanding teacher, Rocky Mountain Chapter, ASEE
- Faculty advisor for American Institute of Chemical Engineers student chapter
- CU Wizard for past six years
- Presented seminars based on CU classes to senior citizens

#### **FUNDING**

Co-PI: *EEF*, 2007, *Tablet PC's for Improved Engineering Instruction*

Co-PI: *EEF*, 2006, *RF Clickers for Enhancing Engineering Education*, \$2,000

Co-PI: *EEF*, 2005, *Demonstrations in 3-D*, \$5,000

Co-PI: *CUBE*, 07/01/03-06/30/04, \$100,000, NSF

PI: *Reaching the High School Science Teachers*, 01/01/04-12/31/04, \$5,000, CU Outreach Committee.

PI: *Chemical Car*, 04/01/03-12/31/03, \$1,000, EEF.  
 PI: *Development of a Hands-on, Integrated, Standards-Based Elementary Engineering Curriculum*, 01/01/02-12/31/04. \$465,340, U.S. Department of Education.  
 Co-PI: *Creating an Integrated Engineering and Technology Education Continuum*, 09/01/99-08/31/02. \$1,293,717, NSF PI: *Pre-College Engineering Success Institutes for Under-Served Students*, 07/01/00-06/31/03, \$90,872, U.S. Department of Energy.  
 PI: *Pre-College Engineering Success Institutes for Under-Served Students*, summer 2000-summer 2003, \$36,079, CU-Boulder Outreach Committee.  
 PI: *Girls Embrace Technology Internship Project*, summer 2002, \$8,400, Xcel Energy Foundation. PI: *Pre-College Engineering and Technology Workshops for Underserved Students*, summer 2001, \$20,000, Colorado Institute of Technology  
 PI: *Beyond the Front Range*, summer 2001, \$3000, CU-Boulder Outreach Committee.  
 PI: *Geographic Expansion of Engineering Workshops to Include Western Slope K-12 Teachers*, summer, 2000, \$26,391, Colorado Institute of Technology.  
 PI: *Success Institutes for Underserved Students*, summer 2000, \$33,537, Colorado Institute of Technology.  
 Pending: *Tablet PC's for Improved Engineering Instruction*, EEF, \$9,000

### **PRESS AND PUBLICITY**

"CU Wizards go with the Flow", Daily Camera, December 18, 2006  
 "A True Student-Athlete", Daily Camera, February 6, 2005  
 "Science Show was Really Too Hot to Handle," Daily Camera, October 19, 2003  
 "Science Notebook," Daily Camera, October 12, 2003  
 "CU Offering Recruiting Programs," Daily Camera, February 22, 2002  
 "Educator sparks kids interest in engineering," Sunday Camera, January 6, 2002 .  
 Appearance on Channel 9's morning show, December 29, 2001 .  
 "Wizards Wow Students Saturday Morning," Sunday Camera, December 23, 2001 .  
 "Wizards Present 'Go With the Flow' Show," Daily Camera, December 19, 2001 .  
 "Grant Funds Elementary Engineering Curriculum," Daily Camera, December 14, 2001 (FIPSE).  
 A five-part series titled, *ABCs of Engineering*, was broadcast October 22-26, 2001 , on NEWS4, KCNC television. The series featured newscaster Larry Green and Outreach Director Janet deGrazia describing five different engineering disciplines and demonstrating concepts through a variety of hands-on activities aimed at elementary schoolchildren and teachers.  
 "NEWS4's Larry Green Teams Up with CU-Boulder Senior Instructor Janet deGrazia for ABCs of Engineering," Carillon, October 26, 2001 .  
 "CU Students Win Award for Telemark Binding," Daily Camera, October 24, 2001 , describes an engineering student team invention that evolved from GEEN 2400.  
 "News4, CU Promote Engineering," Rocky Mountain News, October 22, 2001 .  
 "CU, Channel 4 teaming up to cover 'ABCs of Engineering'" Daily Camera, October 20, 2001 .  
 "KCNC Weatherman Teams with CU Prof" Daily Camera, October 20, 2001 .  
 "Prof Aims to Boost Interest in Engineering Through Series," Colorado Daily, October 16, 2001 .  
 "Series to Make Engineering Fun for Kids," Coloradan, October 2001, p. 2 (ABCs of Engineering).  
 "ITLL Integrates Math, Science into K-12 Classes," "Success Institute Prepares Students for Engineering and Technology Careers," and "CU's Pre-Collegiate Program Continues Expansion." three articles, Carillon, August 17, 2001 .  
 "CU Wants to Engineer More Diversity: Program Stimulates Curiosity in Minority Students," Daily Times-Call, July 29, 2001 .  
 "Gray Skies Don't Hide Teens' Drive," Daily Camera, July 27, 2001 .  
 "Teachers Learn, Too," Daily Camera, July 19, 2001 .  
 "Engineering K-12: High-Tech Programs Should Be Targeted at Youngsters to Be Effective, Experts Say," Denver Rocky Mountain News, June 26, 2000 .  
 "Teachers Rediscover Art of Learning," Daily Camera, June 15, 1998 .