

Full Name

Rebecca Ciancanelli

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By submitting this application, I confirm that, if selected to receive a Chancellor's Award for Excellence in STEM Education, I will:

- ✓ Attend and be recognized at the annual Symposium on STEM Education (fall 2014).
- ✓ Give a brief introduction (~10-15 min) to my project at DBER in fall 2014.
- ✓ Actively engage in the CU-Boulder STEM education community by attending weekly DBER seminars and Chancellor's Fellow events when possible.
- ✓ Present my work to the STEM education community by giving at least one DBER seminar, OR, if that is an impossibility, I will give a talk that the CU-Boulder STEM education community is invited to attend.
- ✓ Submit a 1000 to 3000-word report detailing the outcomes of the project at the end of the funding period

Executive Summary

The Department of Chemistry and the Student Academic Success Center (SASC) will partner to pilot a Fall 2014 Inclusive Chemistry Success Project that coordinates pre-assessment, advising, core instruction, supplementary instruction, and post-assessment. The primary goal will be to improve first-term outcomes for a freshman cohort of thirty (30) underrepresented and underserved students based in SASC who plan to enroll in CHEM 1021 Introduction to Chemistry in order to complete a MAPS requirement or to prepare for a STEM major.

This project will contribute specifically to excellence and student development at CU Boulder by creating an opportunity for this diverse freshman cohort 1) to enroll in a pilot CHEM 1021 class featuring inclusive and interactive instruction that closes historical achievement gaps in STEM success; 2) to receive a coordinated success plan of assessment, advising, and support that improves individual persistence in chemistry; 3) to participate in a multicultural learning community that facilitates equal access to STEM majors and provides holistic support to ensure timely graduation and career readiness. This project will contribute generally to a campus environment that supports cultural diversity in teaching by 4) training a diverse cohort of STEM majors to serve as Instructional Assistants in both McNeill CHEM 1021 and ARSC 1400 Co-seminar Chemistry 1 & 2, thus enriching their undergraduate experience while providing the freshman cohort with underrepresented peer models of student success; and 5) adapting the CHEM 1021 standard curriculum to Process Oriented Guided Inquiry Learning (POGIL), thus providing the campus with a new model of STEM undergraduate instruction that is both inclusive and rigorous.

This proposal requests \$9800 in start-up funds for the cost of equipment, travel, training, and staffing required to develop, implement, and evaluate a pilot stage of the Inclusive Chemistry Success Project in the 2014-2015 academic year. Continuing support of the project will be sought from other sources of competitive grant funding, including the CSL Chancellor's Award for Excellence in STEM Education and the NSF Improving Undergraduate STEM Education.

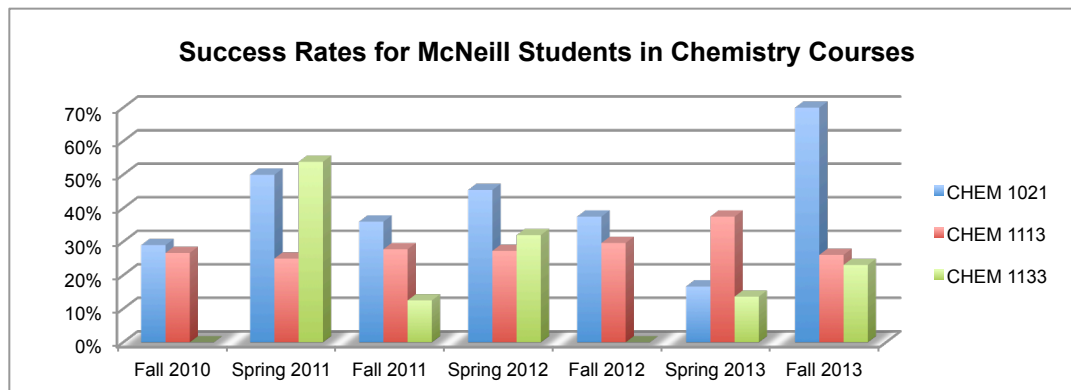
Statement of Need

As a MAPS requirement, chemistry is a milestone for college readiness; as a subject, it is a gateway to STEM majors; as a degree, it is a pathway to STEM careers in academe, business, government, and industry. Yet the chronic achievement gap between an underserved student population and the general student population in terms of access to STEM courses, persistence in STEM majors, and graduation into STEM careers exposes a sequential failure of our K-16 pipeline to prepare, retain, and graduate an important population of prospective STEM majors who are underrepresented in STEM careers.

Based on our work transitioning freshmen from Colorado high schools to CU Boulder, we identify three reasons for this achievement gap in STEM subjects. First, underrepresented students typically attend under-resourced urban or rural high schools, often arriving on campus as the first member of their family to attend college. They may present a lower level of academic readiness than their majority peers, and if they do not receive transitional support or early intervention, they prove vulnerable to DWF grades in high-risk STEM gateway courses (Kuehn, 2011). A bad freshman experience, often as early as the first midterm, results in their ongoing avoidance of STEM requirements and their inevitable exclusion from STEM majors and careers. Offsetting this attrition in chemistry is especially important because the subject is second only to math as a requirement for competitive majors, including biology, engineering, environmental studies, geology, and psychology. Among current SASC freshmen, for example, 44 students enrolled in chemistry, only 15 in physics in order to complete a STEM requirement or a MAPS deficiency.

Second, STEM departments prioritize the delivery of degree gateway courses that enroll the majority of freshmen over their introductory subject courses that satisfy MAPS requirements. Without a reliable assessment of their preparedness, underrepresented students may default to gateway courses when enrollment in an introductory course would solidify their mastery of the subject and support their persistence to the degree. An institutional commitment to implementing freshman assessment and promoting introductory courses would improve general student outcomes while also fostering the number of STEM majors among underrepresented students (Mervis, 2010). At CU Boulder, the chemistry

department is one of the few STEM departments that offer an introductory course (CHEM 1021). On average, 41% of McNeill students since 2010 have achieved a grade of A or B (defined as "Success Rate") in CHEM 1021, compared to only 29% in CHEM 1113 with a drop to 19% in CHEM 1133. In the graph and data table below, we show the success rates for all the students enrolled in our chemistry courses over the last 7 semesters; approximately 30-50% of these students had co-seminar support. Some of these students had supplemental instruction, and some did not. We hope to see significant improvement overall, given appropriate placement and critical thinking skills support.



CHEM 1021			CHEM 1113			CHEM 1133		
Semester	Students enrolled	Success Rate	Semester	Students enrolled	Success Rate	Semester	Students enrolled	Success Rate
Fall 2010	21	29%	Fall 2010	15	27%	Fall 2010	2	0%
Spring 2011	24	50%	Spring 2011	12	25%	Spring 2011	13	54%
Fall 2011	24	36%	Fall 2011	36	28%	Fall 2011	8	13%
Spring 2012	11	45%	Spring 2012	22	27%	Spring 2012	25	32%
Fall 2012	8	38%	Fall 2012	27	30%	Fall 2012	11	0%
Spring 2013	11	17%	Spring 2013	24	28%	Spring 2013	22	14%
Fall 2013	11	71%	Fall 2013	23	26%	Fall 2013	13	23%
Total/avg	110	41%	Total/avg	159	29%	Total/avg	94	19%

We recognize that our definition of success is an ambitious goal, but we have noted that students who receive lower than a B- grade in their chemistry courses tend to struggle significantly in the next course given the sequential nature of the curriculum.

Third, the positive impact of student-faculty interaction and supportive campus environment on student outcomes is amplified for students of color attending a predominantly white institution (Kuehn, 2011). Underrepresented students at CU Boulder comprise 23% of the Fall 2013 freshman class, 19% of the current undergraduate population, and 14% of Spring 2013 graduates. For these students, connecting with faculty mentors and discovering a community of peers requires proleptic self-confidence to overcome a sense of cultural or economic alienation. A large, windowless introductory STEM lecture that mimics the access and equity problems of the campus does not address their needs nor advance their academic goals, particularly if the midterm serves as their first assessment tool, dropping them down from a gateway to an introductory course, or kicking them out of the STEM pathway.

Redesigned by SASC in partnership with the Department of Chemistry, a small, cohorted CHEM 1021 class will enable hands-on, interactive, and collaborative learning with strong faculty mentoring and supportive peers. This course will create a safe yet demanding space for discovery, fostering both academic and personal development in the first-term, thus ensuring a confidence-building experience of inclusive excellence that will encourage persistence in the subject and the degree. We hope to see

positive results that extend beyond the freshman year, allowing for more success in CHEM 1133 and the demanding organic chemistry courses required for most pre-health majors.

Goals and Objectives

The primary goal of our project in its pilot stage is to improve first-term outcomes for a freshman cohort of thirty (30) underrepresented and underserved students who plan to enroll in CHEM 1021, Introductory Chemistry in order to complete a MAPS requirement or to prepare for a STEM major. We will achieve this goal by delivering on the following objectives:

1. Pre-Assessment: Recruit a Fall 2014 cohort of 30-45 SASC freshmen to participate in our project and test them for level of readiness in General Chemistry.
2. Advising: Advise this cohort on successful pathways to STEM majors and careers, including the option of placement in CHEM 1021 or CHEM 1113.
3. Core Instruction: Enroll 30 freshmen in a SASC section of CHEM 1021 redesigned for interactive learning.
4. Supplementary Instruction: Enroll 15 freshmen in a Chemistry section of CHEM 1113 with SASC section of ARSC 1400 Co-seminar.
5. Post-Assessment: Retest both the SASC CHEM 1021 and the Chemistry CHEM 1113/ARSC 1400 students at the end of Fall 2014 term.

Program Design

The successful retention, persistence, and graduation of underrepresented students in STEM Majors require a holistic strategy of "early intervention, orientation programs and other social support resources" (Mervis, 2010). Thus the design of our Inclusive Chemistry Success Project is based on our well-established SASC Math Program which integrates pre-assessment, advising, inclusive core instruction, and peer-led supplementary instruction to improve student success rates from College Algebra through Calculus I. SASC MATH classes meet five days per week, for at least one hour per day, and train high-performing upperclassmen to serve as Instructional Assistants alongside the Instructor in order to provide lowerclassmen with academic support and peer mentoring.

We expect to demonstrate a comparable improvement in General Chemistry outcomes for our freshmen by duplicating this intensive, interactive, and interventionist Mathematics model. The CHEM 1021 instructor Dr. Ciancanelli will lead 3 1-hour core-credit lecture meetings that will be supplemented by 2 1-hour non-credit POGIL sessions staffed by Instructional Assistants for a total of five instructional hours per week. We will track student participation, comprehension, and feedback by using CUClickers during lecture hours. In addition to SASC-wide Midterm evaluations collected in Week 8, Dr. Ciancanelli will conduct one-on-one check-ins with students at Week 4 and Week 12. At the end of Fall 2014, we will conduct a project survey of both students and Instructional Assistants in order to measure their satisfaction with POGIL as well as to document other qualitative data on their experience in the pilot class, including an opportunity to write self-reflective essays on their progress toward a STEM degree.

Because all sections of Fall 2014 CHEM 1021 will administer the same set of examinations, Dr. Ciancanelli will consult with Dr. Raina Gough, who is teaching the Health Professionals Residential Academic Program (HP RAP) CHEM 1021 section and Dr. Robert Parson, who is teaching the main lecture for CHEM 1021. These two sections, one with controlled enrollment, the other with open enrollment, will provide the SASC section with benchmarks for assessing general student outcomes. Specific to this project, we will use POGIL as our pedagogical method and implement ALEKS (Assessment of Learning in Knowledge Spaces) Summer Prep for General Chemistry as our pre- and post-assessment tool.

In order to expedite the development of our SASC CHEM 1021 curriculum and Instructional Assistant training plan for Fall 2014, Dr. Ciancanelli will attend the 2014 POGIL Southwest Regional 3-Day Workshop in Colorado Springs (July 9 – 11). She will refresh her knowledge of POGIL philosophy and methodology; practice facilitation techniques; write and review activities; and attend informative poster

and plenary sessions. Her redesigned CHEM 1021 will feature the hands-on, role-based learning that guides students from data exploration through critical thinking to problem-solving application.

As a pedagogical method, POGIL has been shown to improve process skills and content knowledge for individual students while fostering the "positive interdependence" that prepares them for participating on team projects in the workplace (Farrell, 1999). Notably, it decreases the DWF rate in comparison to a standard lecture format for STEM courses because it increases student engagement in their learning cycle (Chase, 2013). It is thus an effective method to ensure both an inclusive and a rigorous preparation of SASC students for the General Chemistry sequence.

We will partner with Dr. Margaret Asirvatham, Senior Instructor, in developing a pilot program for ALEKS as an assessment tool for incoming freshman. ALEKS is an adaptive learning system that promotes mastery learning, long-term understanding and retention of knowledge. Because ALEKS is a more effective assessment tool than ACT or SAT for college readiness in this STEM subject, we will consult with Eric Gates the ALEKS Chemistry Senior Sales and Implementation Consultant to offer ALEKS Summer Prep for General Chemistry to our incoming SASC freshmen class. Mr. Gates will provide our pilot project with the ALEKS product free of charge for 18 weeks, an agreement that allows Dr. Asirvatham to run the pilot with her post-baccalaureate program this summer and subsequently implement in partnership with Dr. Ciancanelli with all the incoming freshman.

Starting in Spring 2014 Term, matriculating SASC freshmen will receive a Inclusive Chemistry Success Project invitation letter as part of their SASC Orientation packet. The letter will explain the benefits of participating in our pilot project and describe the predictive value of ALEKS scores for CHEM readiness, comparable to the campus-wide use of ALEKS for MATH placement. During the Orientation, Advising, and Registration sessions (June – August), we will provide one-on-one advising for prospective STEM majors on how to use the self-study option to improve their ALEKS score. We will also employ student work study staff to stay in contact with project participants, by telephone and email, in order to ensure their completion of the assessment before the start of classes. Based on their ALEKS score, we will enroll participants in either SASC CHEM 1021 or Chemistry CHEM 1113/ARSC 1400 for Fall Term. The post-assessment will be complete in December 2014 prior to Winter Break.

Evaluation Plan

We will evaluate the pilot stage of the Inclusive Chemistry Success Project in Spring 2015 and submit the Chancellor's Award Report by the end of our 12-month project period in Summer 2015.

During the project period, we will measure, collect, and evaluate these data points:

1. ACT/SAT and PGPA for all project participants.
2. Pre-assessment (June – August) and post-assessment (December 2014) ALEKS scores for SASC freshmen placed in Fall 2014 CHEM 1021 and CHEM 1113/ARSC 1400.
3. Average Fall 2014 project cohort outcomes compared to 5-year historical averages for SASC students in CHEM 1021 and CHEM 1113/ARSC 1400.
4. Average Fall 2014 project cohort outcomes compared to 5-year historical averages for general student population in CHEM 1021 and CHEM 1113.
5. Qualitative data from project survey (Fall 2014).
6. Individual and cohort outcomes in Spring 2015 CHEM 1113 and/or CHEM 1133 for project participants who continue in the General Chemistry sequence.

At this pilot stage, we expect to demonstrate the impact of using ALEKS for improved student placement as well as the impact of teaching a redesigned CHEM 1021 on improved first-term outcomes for a cohort of underrepresented and underserved SASC freshmen who plan to enroll in the General Chemistry Sequence.

Project Sustainability

After the completion of its pilot stage, we will seek continuing support for the Inclusive Chemistry Success Project from other relevant sources of competitive grant funding, such as the NSF Improving Undergraduate STEM Education.

Our short-term goal is to develop our current ARSC 1400 Co-Seminar Chemistry 1 & 2 into a POGIL version of the complete General Chemistry sequence from CHEM 1021 to CHEM 1133. Partial funding will be provided by our SASC Supplemental Instruction budget, and we will seek a cost-sharing arrangement and/or competitive funding opportunities in partnership with the Department of Chemistry.

Our long-term goal is to develop the SASC STEM Co-seminar Program beyond its original service as supplementary instruction into a set of introductory POGIL STEM core credit courses, prioritizing the subjects of biology, physics and psychology based on their demand as STEM major requirements (Bayliss, 2008). We will therefore seek collaborative funding opportunities with other STEM departments who share our mission to serve underrepresented students while improving general student outcomes in their introductory and gateway courses.

Organizational Information

With its genesis in the Equal Opportunity Programs of the 1960-70s, and its emergence from the University Learning Center in 1995, SASC combines an historical commitment to social justice with an inclusive model of academic excellence that has always been, and will always be centered on the student. We define ourselves as a multicultural learning community that serves underrepresented, underserved, first-generation, low-income, and other non-traditional students by our mission to provide equal opportunity for academic, personal, and career success. We deliver instruction, scholarships, advising, services, resources, and community to improve the recruitment, retention, persistence, and graduation rate of students who contribute to the cultural diversity and academic excellence of the CU Boulder campus.

Specifically, SASC hosts two academic support programs, three scholarship programs, two core instructional programs, and four supplementary instructional programs in addition to providing advising, technology support, and work study to its students. Overall, SASC serves 900 actively enrolled students with an overall retention rate of 95%, a persistence rate of 70%, and a graduation rate of 60%. These outcomes match or exceed the campus average for traditional undergraduates, despite its special mandate to recruit and graduate a population of underserved, underprepared, non-traditional, and at-risk students.

TITLE	SERVICE	STUDENTS	MANAGER
TRIO Academic Excellence Student Support Services Program	Support & Development	210	Valery Embry
McNeill Academic Program	Support & Development	450	Sophie Low & Loretta Wahl
First Nations Scholarship Program	Scholarship	40	Sue Lentz
Guardian Scholars Program	Scholarship	20	Valerie Embry
White Antelope Memorial Scholarship Program	Scholarship	25	Sue Lentz
Math Program	Core Instruction	250	Elena Hartoonian
Writing Program	Core Instruction	150	Julia Willis
Academic Skills Workshops	Supplementary Instruction	300	Karen Wyatt
English Language Learners Program	Supplementary Instruction	60	Daniel West
STEM Co-Seminar Program	Supplementary Instruction	200	Rebecca Ciancanelli
Tutoring Services	Supplementary Instruction	95	Karen Wyatt

For additional information on its mission and history; programs and services; and students, faculty, and staff, please consult the website at <http://www.colorado.edu/sasc>

Budget

We are requesting \$9800 in funding support for this project; see table below for details.

	Budget for Chancellor's award	
	2014-2015	
	Chancellor's Award	COSTSHARING
SALARIES		
Co-seminar instructor (CHEM 1113, 1133)	\$5,800	
Instructional Assistant salaries	\$1,800	\$1,400
Undergraduate post semester support	\$700	\$1,400
	\$8,300	\$2,800
		\$11,100
OPERATING		
Laptop computer for data analysis		\$1,300
Calculators for CHEM 1021 course		\$240
ALEKS post-semester assessment	\$800	\$600
	\$800	\$2,140
		\$2,940
TRAVEL		
POGIL conference - Dr. Ciancanelli		\$450
Travel to UMBC to visit POGIL program	\$700	
POGIL conference - Dr. Willis		\$450
	\$700	\$900
		\$1,600
BUDGET TOTAL		
	\$9,800	\$5,840

Current and Pending Funding

We have also applied for the IMPART Faculty Fellowship Award, with Dr. Asirvatham as the applicant.

http://www.colorado.edu/ODECE/faculty_success/impart.html

References

- Bayliss, F.; Peterfreund, A.R.; Rath, K.A.; Xenos, S.P. (2008) The Impact of Supplemental Instruction on Students in STEM Courses: Results from San Francisco State University. *Journal of College Student Retention*. 9 (4), 487-503.
- Chase, A.; Pakhira, D., Stains, M. (2013) *Journal of Chemical Education*, 90, 409-416.
- Farrell, J.J.; Moog, R.S.; Spencer, J.N. (1999) A Guided Inquiry General Chemistry Course. *Journal of Chemical Education*, 76 (4), 570.
- Kuehn, G.D.; Peterfreund, A.R.; Rath, K.A.; Reinke, Y.G.; Slovacek, S.P.; Tucker, S.; Whittinghill, J.C. (2011) Minority Students Severely Underrepresented in Science, Technology, Engineering and Math. *Journal of STEM Education*, 12, 25-36.
- Mervis, Jeffrey (2010) Better Intro Courses Seen as Key to Reducing Attrition of STEM Majors, *Science*, 330, 306

Chase, A.; Pakhira, D., Stains, M. (2013) Implementing Process-Oriented, Guided-Inquiry Learning for the First Time: Adaptations and Short-Term Impacts on Students' Attitude and Performance. *Journal of Chemical Education*, 90, 409-416.

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EDUCATION

University of Colorado, Boulder, CO
Completed PhD in Inorganic Chemistry, Aug 1998 – Aug 2002

Colorado College, Colorado Springs, CO
Masters of Arts in Teaching Secondary Science Education, June 1995 - Aug 1996

Harvey Mudd College, Claremont, CA
Bachelor of Science in Chemistry, with honors, Aug 1991 - May 1995

University of Sussex, Brighton, England
Semester abroad, January 1994 – June 1994

Liceo Scientifico, Milan, Italy
Student exchange program with total language immersion, September 1990 – June 1991

TEACHING/MENTORING EXPERIENCES

STEM coordinator, 10/13 – present, CU Boulder

- Teaching co-seminars to support Chem 1111, 1131, and 1021 for the Student Academic Services Center and McNeil Program; currently developing first McNeill section of CHEM 1021
- Provide administration of and vision for supplemental instruction, including support of all program logistics such as scheduling, student enrollment, grade and data management
- Develop and management of the budget for supplemental instructional program
- Hire, train and supervise the instructional staff for all supplemental instruction courses. Develop and implement staff training on curriculum, multicultural and culturally competent practices
- Hire, train and supervise instructional assistants (undergraduates in various diversity programs) to work in the classroom with the instructional staff
- Manage a caseload of McNeill students
- Provide leadership in the administrative duties for the McNeill team

Chemistry Academic Specialist, 08/04 – 05/06, 01/08 – 05/10, 08/11 – present, CU Boulder

- Taught co-seminars to support Chem 1111, 1131, and 1021 for the Student Academic Services Center and McNeil Program
- Currently teach co-seminars to support Chem 1113, Chem 3311 and Chem 3331 for the Miramonte Arts and Sciences program
- Substitute lecturer for Margaret Asirvatham, Cortlandt Pierpont and Mary DuBois.

Chemistry and Physics Teacher, 8/96 – 6/98, Overland High School, Aurora, CO

- Taught 10,11 General Chemistry and 11, 12 General Physics
- Designed curriculum for these classes and created notebooks with material
- Co-led Block Scheduling Committee
- Participated in track meets as volunteer
- Participated in teaching training at National Renewable Energy Laboratories (summer of 1996)
- Laboratory research at National Renewable Energy Laboratories (summers of 1996, 1997)

Student Teacher Intern, 8/95 – 5/96, Wasson High School, Colorado Springs, CO

- Taught 10-12 General Chemistry and 9,10 General Biology

- Worked extensively with a tutoring lunch program for failing students
- Helped with Science Olympiad and Science Club
- Designed a chemistry project to connect with scientists in the community which involved presentations by the students and community scientists.

Student Liason, 8/95 – 5/96, AFS Intercultural Programs, Colorado Springs, CO

- Mentored high school exchange students; helped organize and manage weekend programs

Mentoring Program, 4/94 – 5/94, Falmer School, Brighton, England

- Mentored two fourteen-year old students for a period of six weeks in both academics as well as social concerns. Met with both students once a week

Volunteer in Conflict Resolution Project, 9/94 – 12/94, Pomona High School, Pomona, CA

- Observed and assisted students in chemistry and biology classes

RESEARCH EXPERIENCES

PhD Research, 8/99 – 6/02, University of Colorado

- Conducted extensive research with Drs. Dan and Mary DuBois on novel inorganic hydrides as part of a collaboration between National Renewable Energy Laboratories and University of Colorado. Publications in Journal of American Chemical Society, Organometallics and others.

Masters Research Project, 12/95 – 1/96, Colorado College

- Independent research with Dr. Paul Kuerbis in secondary science methods (review of four years of Science Scope magazine). Involved written summaries of chosen articles.

Undergraduate Research Project, 12/94 – 6/95, University of Sussex

- Researched colloidal dispersions with Dr. Steven Armes and published a paper with other undergraduate and graduate students.

Undergraduate research Projects, 6/93 – 12/95, Harvey Mudd College

- Researched lasers and graded papers for a physical chemistry course
- Research alcohol Langmuir films with Dr. Shenda Baker and published a paper with other undergraduate students

RELATED TECHNICAL EXPERIENCES

Technical Writer, 11/12 – 11/13, Ford Documentation Services, Boulder, CO

- Helped develop a new visual format for batch records at Hospira, Inc.; Created binders for filter housing for MKS, Inc.

Lab Technician, 5/92 – 8/92, Colorado Analytical Corporation, Colorado Springs, CO

- Worked up soil samples for pesticide residue analyses

HONORS

- Graduate Teaching Excellence Award, 2002-2003 academic year
- Edward King Fellowship, Inorganic Division of Chemistry and Biochemistry, academic year 2001
- University of Colorado fellowship, academic years 1998 and 1999
- Associated Western University Summer Faculty Fellowship with National Renewable Energy Laboratory, summer 1997
- Lori Lowe Scholarship, Colorado College, 1996
- Who's who in American Colleges nomination
- Claire Luce Booth scholarship finalist, 1995
- Radley Prize for honors in Humanities and Social Sciences, 1995

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Education

Ph.D., English, Rutgers University
M.A., English, Rutgers University
B.A., Mathematics, University of Colorado
Certificate, Women's Studies, University of Colorado

Post-Graduate Training

Council of Writing Program Administrators Workshop, Denver, 2008
Computers in Writing Intensive Classrooms, Michigan Technological University, 2005
Generating Expectations for Student Achievement, Denver, 2004
Institute for Writing and Thinking, Bard College, 2002

Academic Positions

Assistant Director for Instruction, Student Academic Success Center: 2010-Present

Writing Director, Student Academic Services Center: 2003-2010

Writing Instructor, 1990-2003

- Lead Instructor for Student Academic Services Center, 1998-2003
- Lecturer, Metropolitan State College of Denver, 1996-1998
- Lecturer, University of Wyoming Upward Bound, 1994-1995
- Graduate Instructor, Rutgers University, 1990-1996

Courses Taught

Ways of Knowing, University of Colorado (CU)
College Writing and Research, CU
Advanced Writing in Women's Studies, CU
Writing for the Environment, CU
Multicultural Topics, CU
Advanced Expository Writing, CU
Expository Writing, CU
Processes in Writing, CU

Expository Writing, Metropolitan State College of Denver (MSCD)
Advanced Expository Writing, MSCD
Introduction to Shakespeare, MSCD
Introduction to British Literature, MSCD
Basic Composition, Rutgers University (RU)
Expository Writing, RU
Introduction to Women's Studies, RU
Principles of Literary Study, RU
Women and Film, University of Wyoming (UW)
Writing for Math and Science, UW

Presentations

"From Canvas to Community Stage to Curricular Reform: Intersectional Interventions." *National Women's Studies Association Conference*, Denver, CO, 2010. Session Chair.

"Monkeywrenchers, Mavericks and Obama Girls: Insiders, Outsiders and Outliers in the Comp/ Rhet Classroom." *Western States Rhetoric and Literacy Conference*, Salt Lake City, Utah, 2009. Roundtable Presentation.

"I Can't Stand the Sound of My Own Voice: Audio Essays in Multicultural Learning Communities." *Conference on College Composition and Communication*, San Francisco, CA, 2009. Panel Presentation.

"Sub-scribe This!': Online Publishing, 'Multiculturalism' and Student identity." *Conference on College Composition and Communication*, New York, NY, 2007. Panel Presentation with Catherine Altman.

"Training Undergraduate Teaching Assistants." *Western State College*, Gunnison, CO, 2006. Invited Presentation.

"Gatekeepers or Gatecrashers: Writing Professionals in Student Affairs" *Conference on College Communication and Composition*, New York, NY, 2003. Panel Presentation with Joan Gabriele.

Awards

- Lead Writer, Certificate of Excellence, Conference on College Composition and Communication, 2012
- Equity and Excellence Award, Office of Diversity and Equity, 2007
- LEAD Faculty Recognition, 2007
- Outstanding Faculty, Residence Hall Support Program, 2006
- Dorothy Martin Woman Faculty Award, 2003
- Teaching Excellence, Golden Key Honors Society, 1999