Five questions for Renee Henry[1]

After switching her major to biology while an undergraduate student at the University of Colorado Colorado Springs, Renee Henry enrolled in the required chemistry classes and found her passion. She returned to the UCCS campus in 2008 and is now inspiring students to appreciate the intricacies of chemistry as an assistant professor in the Department of Chemistry and Biochemistry. Along with improving teaching methods, Henry's research entails using her knowledge to develop ways to clean up toxic metals in the environment.

1. How are you changing teaching styles to help students?

Students have grown up with the internet, and because of that, I've changed my teaching style. Originally, in classrooms, you lectured and your students wrote stuff down then went away to figure it out on their own, hopefully before taking tests. Students use the internet and technology now, so I moved to using the internet and technology in a way the students can learn in class (interactive learning). I have students use the internet in class, looking up definitions or videos so they have a bigger role in creating their own lecture notes. This way, they find information in a way that is familiar and in a verbiage that means more to them.

Also in class, we spend a lot of time working on problems. That gives me more time to work with 100 or more students in groups or as individuals. I wouldn't be able to do that otherwise. The students use the iClickers system, which allows them to vote on multiple-choice answers that were provided with the problem. I get feedback from their choices and that helps me figure out if students are getting the concept and I can move on, or if I need to spend more time clarifying the topic. It's almost hard for me to teach now without instant feedback because I've gotten really used to that.

All of this has increased retention quite a bit. In my four-year study, the retention rate increased 30.9 percent. In the study, I compared two years of classes where I used the internet and two years where I didn't. During the two years using the internet in class, students completed several surveys. The students seemed to like using the internet more than textbooks.

The paper detailing the study was published in the Journal of Chemical Education and has been well-received in the research community. I have been invited to be a speaker at the American Chemical Conference this spring in the interactive symposium.

2. Other research you are engaged in centers around enzymes and proteins that can be used to remove metal toxins from the environment. How did you choose this focus and what has been the outcome of your research?

My research is in the development phase. The synthesis of synthesizing compounds for this work sort of exploded. It took us a couple of years to get one made, but once we figured that out, it was easier to synthesize new compounds. I have 39 molecules to test right now, which is a lot. The research groups have worked with one compound and we've been able to get that compound to do a complete cycle. What this entails is the preparation of the compound to bind metals (de-protonation), followed by the introduction of a metal ion, in this case silver, to the reaction solution. The compound-metal complex precipitates out of the solution, which effectively removes the metal ion from the sample solution. Following this, our group can separate the compound-metal complex so the compound can be used again in another cycle and the metal ion can be recycled. I am getting the compound back at 80 percent recovery. What is nice about it is that the cycle purifies that compound and the data shows we're getting a 100 percent recovery of the metal.

The next phase would be the removal of mixtures of metals from solutions because I want these compounds to be able to remove a wide variety of metals. The intent is to use these at environmental Superfund sites, from mining locations to areas polluted by sludge waste, to remove toxic metal ions. Environmental problems need to be solved to provide a cleaner and safer place to live.

The original idea of this came from a compound that plants secrete into the soil through the root systems to bind iron ions, which are needed for growth. The plants are then able to re-uptake the compound with the iron ion bound to it

through the root systems. I thought if they could pick out iron, we could pick out other metals using similar types of compounds.

3. You also teach a forensic chemistry class. How did this come about?

I got into teaching forensic chemistry when I did a teaching postdoc at Colorado State University-Pueblo. They offered the class as part of an emphasis in forensic chemistry. The more I learned about it, the more interesting I found it. When I came to UCCS, I developed a couple of classes, including the forensics class. This one is a nice course because students can fill their science courses with a topic that is familiar to them and interests them. The first thing students learn is that television shows are not reality.

A few years ago, the dean of Letters, Arts and Sciences wanted to offer more online courses. UCCS has an online teaching certificate program that is about a 10-week course. During this program, I learned effective methods to develop and teach an online forensic chemistry course. After teaching the online course the first time, the course was Quality Matters certified, which indicates the course is a robust online course. This was an achievement for me because I completed the certification program, offered the online forensic course and received the Quality Matters certification all within a year.

This online forensic chemistry course has an accompanying laboratory section offered within our department. Hand-On-Labs Science Delivered provides the students with the materials necessary to complete the laboratory experiments at home. These kits include fun things like fingerprint powder, microscope slides with fiber and hair samples and many other items.

A lot of criminal justice students take the course, which begins by covering a little background on scientists who discovered blood-typing or conducted research to prove that fingerprints are unique to each person. After that, we talk about how to approach a crime scene and how to collect and protect evidence. We talk about everything from fingerprints to blood spatter, how to look for evidence of arson at a crime scene, DNA, and drug classification and common analysis techniques.

4. What other programs have you been involved with at the university?

Several members of our department received funding for an educational program – Research Experience for Undergraduates – for three summers, but we were able to extend it for a fourth summer. We invited students from around the country whose universities are not able to offer novel research experiences. We choose about 10 students to work in our research laboratories for eight weeks of the summer semester, teaching them about all aspects of research, including ethics. We trained them to do a research project we were already working on. The students get a lot of experience conducting viable research projects.

Early on in my career at UCCS, the department received a grant to design a course to prepare students to conduct research with a faculty member in the sciences. Students who applied and were accepted into to this course would learn research skills from several faculty members. Students would work with one faculty member for several weeks then in research laboratories for several weeks then rotate into another faculty member's research laboratory to learn another set of research skills. If the students liked doing research with a certain faculty member, they could continue working in their group in the summer with a stipend.

5. Do you have a favorite item or artifact that you keep in your office? If so, what is it and what is the story behind it?

I collect geodes and mineral crystals and have a lot of them in my office. The mineral makeup and formation is so interesting. I have a few crystals of aquamarine, which is my birthstone; quartz, which is commonly found in this area; amethyst; citrate; and other colorful minerals that I have gathered over the years. It's too bad large diamonds are not common in Colorado. The Gems and Minerals display at the Denver Museum of Nature and Science is my favorite exhibit.

Governor proposes 9.7 percent funding increase for higher education[2]

The fiscal year 2018-19 state budget request that Gov. John Hickenlooper released late Wednesday calls for an $86.9 million increase for higher education, the largest portion of which will go to governing boards. The request represents a 9.7 percent increase over the previous year.

“This is great news and we appreciate Gov. Hickenlooper’s prioritizing higher education in his budget request,” said CU President Bruce D. Benson. “If approved by the Legislature, it will invest more funding in higher education, which will generate substantial returns for our students and our state.”

CU’s share would be an estimated $18.9 million, or about a 10 percent increase.

The request to the Joint Budget Committee also includes funding for CU’s top capital construction priority, The Center for Personalized Medicine and Behavioral Health at the CU Anschutz Medical Campus. Campus officials say the building will help expand and enhance medical services to tens of thousands of Coloradans in the years to come.

Besides the significant increases for the coming year, Hickenlooper’s request also recommends automatic base-building increases in the three subsequent fiscal years – a first.

The governor recommends that tuition for resident undergraduate students at all state institutions of higher education increase by no more than 3 percent next year.

He also recommends a 3 percent salary pool for state employees.

The Legislature’s Joint Budget Committee now begins reviewing the governor’s proposal. The committee will start meeting later this month.

Click here[3] for the full budget request.

Gallegos advocates for 3rd Congressional District, rural education[4]
[5]

Regent Glen Gallegos may be based in Grand Junction, but he doesn’t let the distance from CU campuses and administration keep him from interacting in person with the CU community on a regular basis. Recent participation included the Faculty Council’s Oct. 26 meeting at 1800 Grant St., where he discussed his priorities and listened to faculty concerns.

“I really believe in the importance of being a regent from an outlying area,” said Gallegos, who represents the state’s 3rd Congressional District. “Because in state statute it says the University of Colorado will be a university for the entire state. You can’t serve on a board if you’re not going to participate and get your hands dirty. I’ve tried to keep that up, not only to represent my district, but to represent for rural education, which I think is important.”

Student affordability and accessibility are among his areas of emphasis, as is representing the state’s diverse population. “Our university should represent what the state looks like,” he said.

One of many ways CU is serving the state’s population beyond the Front Range is via partnerships with other institutions, such as a Grand Junction resident having the opportunity to earn a mechanical engineering degree from CU Boulder. The program is made possible by a partnership between CU Boulder and Colorado Mesa University.[6]

“From the standpoint of how can we do better, I think we could do more partnerships like that,” Gallegos said.

Gallegos also expressed support for the board's new direction in calling for a revamp of online education across the system.[7] "I'd rather be at the top of that wave than the bottom," he said.

Michael Lightner, vice president for academic affairs, went into detail on that effort during his update to Faculty Council. He noted the tight time table that has the full Board of Regents considering a resolution on the matter at its Nov. 16-17 meeting at CU Boulder.

"This is out there and it's evolving," Lightner said. The details of the proposal[8] brought by Regent Stephen Ludwig to the University Affairs Committee are likely in flux, and Lightner encouraged council members to share the information with committees and colleagues across the campuses in order to foster input.

Also at the Oct. 26 meeting, the council heard from Ken McConnellogue, vice president of communication, on the status of CU's systemwide marketing campaign. As part of a "creative refresh," the All Four:Colorado theme has evolved into All Four:One.

"We bring one big thing to the table, which is, we make Colorado a better place," he said.

Comparing market research from this year to baseline research from the year prior, the campaign – consisting of TV, print, digital, outdoor and social media advertising and promotion – had moved the needle on awareness of CU around the state.

"We're making some progress and will continue to," McConnellogue said. "We've got a ways to go with this and I'm pleased with where it's at."

The campaign's primary audience remains Colorado.

"It's surprising to me and others how little people know about our university and what we do," he said. "We want the people of Colorado to be more aware of our contributions and the good work that you all do."

Faculty Council also continued work on reviewing and providing feedback on Article 5 and Policy 5, which is currently being examined[9] as part of the systemwide review of Regents Laws and Policies. The council's Educational Policy and University Standards (EPUS) Committee has provided early suggestions in anticipation of a document for review being readied by early December.

Faculty Council Committee Corner: Communications[10]

Editor's note: This is the first in an ongoing CU Connections series in which the Faculty Council[11] highlights each of its committees and their efforts.

Faculty Council Communications Committee

Committee directive/charge
The Communications Committee is charged with enhancing the shared governance process within the University of Colorado system by improving communication to faculty, staff and administration. The committee does this by informing our constituents of Faculty Council meetings and activities, including changes to administrative policy statements, benefits and other personnel matters; identifying and coordinating the appropriate flow of and media used for communications among campuses and systemwide; announcing upcoming events of importance to faculty and staff; recognizing examples of excellence in the university; and soliciting opinions, analysis, ideas and content for systemwide communications regarding policies and events that affect faculty and staff.

Past committee activities

In the last three years, the committee embarked on two major projects. The first was an in-depth scan across the campuses to identify the communications channels by department, school, college and campus. The scan revealed there are dozens of channels in different formats, frequencies, etc., such as weekly/daily email updates, weekly email newsletters, listservs and website bulletin boards. The second project was a systemwide communications survey to all staff and faculty about their preferences for the type, amount and format of communications on policies, events, achievements and other matters. Some major themes from this survey included a desire for more timely information on policy changes; more coordination among the news sources; more accessible information via websites or an RSS; and more editorial content in systemwide communication vehicles.

Current and future goals
The results of both activities are guiding our current goal for this academic year: to increase involvement in shared governance by improving communications to all staff and faculty regarding current policies and policy changes. We are working on three objectives toward this goal.

Our first step is to gain a better understanding of the flow of information from the system administration to the faculty governance groups and ultimately to all faculty. This will allow us to identify or establish the best channels of communication in response to the survey, such as new web pages to store past communications or a guidebook for faculty on the types of communications and policies and how to find different types of information.

Second, we are looking for ways to include more opinion pieces and subjective commentary in CU Connections as an additional way for promoting cross-campus dialogue on important policy matters and thus, shared governance.

Our last objective is to support the work of the other Faculty Council committees. This includes highlighting the work of each of these committees, drawing attention to issues in front of them that could benefit most from input and feedback, and promoting their events.

Committee members
All Faculty Council committees have representatives from the CU system and each of the campuses. The Communications Committee is currently recruiting for four additional representatives (two from CU Boulder, two from CU Denver). Please direct any questions to Committee Chair Carrie Makarewicz (carrie.makarewicz@ucdenver.edu[12]).
Carrie Makarewicz, Chair, CU Denver, Architecture and Planning **Carmen Stavrositu**, Vice Chair, CU Colorado Springs, Communication **Dana Brandorff**, CU Anschutz, Pharmacy and Pharmaceutical Sciences **Neil Box**, CU Anschutz, Medicine **Christina Martinez**, CU Colorado Springs, Kraemer Family Library **Ken McConnellogue**, CU system, Vice President, University Communication **Cathy Beuten**, CU system, University Relations **Jay Dedrick**, CU system, University Relations
Click here[13] for more information on the Communications Committee.

Call for proposals: 16th Annual CU Women Succeeding[14]

The 16th Annual CU Women Succeeding Professional Development Symposium will be Feb. 23, 2018, at Williams Village, CU Boulder.

The Faculty Council Women's Committee welcomes proposals from the CU community centered on this year's theme, "Empowered Women, Empowering CU."

The committee is seeking knowledgeable, dynamic proposals that address the professional interests of CU women faculty and staff. We invite proposals that:
address the interests and concerns of CU women faculty and staff and broader educational/professional-development issues related to women in academia and beyond; stimulate and provoke discussion and audience engagement; present evidence based on or supported by research; target new, mid-career and seasoned faculty and staff.
Each proposal must include:

Title and summary of presentation (100 words or less) Brief description of proposed topic and how it relates to the theme "Empowered Women, Empower CU" One to three specific learning objectives for participants Time block preference (indicate preference for 45 or 90 minutes) Contact information of primary presenter
The submission deadline is Dec. 8. Presenters will be notified via email by mid-December. If you have questions about submissions, please contact rian.cheley@cu.edu[15].

For more information about the symposium, and to view last year's presentation topics, please visit the CU Women Succeeding Professional Development Symposium[16] website.

Click here[17] to submit abstracts and information.

CU Boulder No. 2 in geosciences, No. 44 overall in the world, according to global rankings [18]

Colorado Shakespeare Festival announces 2018 lineup[19]

Ideas sought to improve student retention, graduation[20]

Pianist to discuss Beethoven's triumph over tragedy[21]

Williams honored by Colorado Association of Libraries[22]

Schuchman poised to assist campus with legislative involvement, government relations [23]

Iwata joins Global Engagement Office[24]

Na'puti testifies before U.N. committee on Guam[25]

Links
[1] https://connections.cu.edu/spotlights/five-questions-renee-henry[2] https://connections.cu.edu/stories/governor-proposes-97-percent-funding-increase-higher-education[3] https://drive.google.com/file/d/0B0TNL0CtD9wXbkNUb0NIQmVrVXM/view[4] https://connections.cu.edu/stories/gallegos-advocates-3rd-congressional-district-rural-education[5] https://connections.cu.edu/sites/default/files/gallegos_01.jpg[6] https://www.colorado.edu/mechanical/cu-colorado-mesa-university-partnership[7] https://connections.cu.edu/stories/cu-regents-call-moonshot-online-education[8] http://www.boarddocs.com/co/cu/Board.nsf/files/ASGJZF4F9932/$file/CU%20Online%20Proposal.pdf[9] https://connections.cu.edu/stories/faculty-focus-latest-regents-laws-and-policies-review[10] https://connections.cu.edu/stories/faculty-council-committee-corner-communications[11] https://www.cu.edu/faculty-council[12] mailto:carrie.makarewicz@ucdenver.edu[13] https://www.cu.edu/faculty-council/committees/communications-committee[14] https://connections.cu.edu/stories/call-proposals-16th-annual-cu-women-succeeding[15] mailto:rian.cheley@cu.edu[16] https://www.cu.edu/faculty-council/cu-women-succeeding-professional-development-symposium[17] https://www.cu.edu/faculty-council/forms/call-proposals-16th-annual-cu-women-succeeding-symposium[18] https://connections.cu.edu/stories/cu-boulder-no-2-geosciences-no-44-overall-world-according-global-rankings[19] https://connections.cu.edu/stories/colorado-shakespeare-festival-announces-2018-lineup[20] https://connections.cu.edu/stories/ideas-sought-improve-student-retention-graduation[21] https://connections.cu.edu/stories/pianist-discuss-beethoven-s-triumph-over-tragedy[22] https://connections.cu.edu/people/williams-honored-colorado-association-libraries[23] https://connections.cu.edu/people/schuchman-poised-assist-campus-legislative-involvement-government-relations[24] https://connections.cu.edu/people/iwata-joins-global-engagement-office[25] https://connections.cu.edu/people/na-puti-testifies-un-committee-guam