Herbert Reich Chair of Natural Science

Dear Members of the Search Committee,

Please consider my application materials for the Herbert Reich Chair of Natural Science position at Deep Springs College. I am an evolutionary ecologist who studies the patterns and processes that produce and maintain biodiversity. I respectfully submit this letter of application, for I believe that my background in ecology and evolution as well as my research experiences and interests, make me well qualified to meet the needs of Deep Springs College.

I served as a faculty member at Nash Community College for thirteen years and thus have the experience necessary to provide quality teaching at the university level. I have actively pursued professional development workshops aimed at undergraduate level teaching of ecology and evolution and for integrating research experiences into undergraduate courses. I have also participated in many AVID for Higher Education professional development opportunities which have enabled me to incorporate many best practice teaching methods in my classroom.

The single most important thing leading to my career choice was the opportunity to participate in and carry out research as an undergraduate. I am dedicated in turn to providing undergraduate research opportunities to students. To date, I have mentored 24 undergraduate students in my lab – most of whom have gone on to success with STEM degrees and careers. I am very excited about the prospect of being able to mentor undergraduate students in an environment more supportive and conducive to these activities than in my previous positions.

I have developed a funded research program (>$730,000 in the last several years) that integrates ecological, morphological and genomic datasets to investigate hypotheses of community assembly, processes of speciation and integrative analyses of ecological and evolutionary processes. This research program would provide numerous opportunities for student participation. In addition to providing research experience, these projects will have broad appeal among biologists and therefore provide opportunities for students to present their work at meetings and publish in the scientific literature. Indeed, I have an extensive history of mentoring student presentations at scientific meetings, many of which have resulted in awards (highlighted in my CV). Even with the limitations of mentoring freshman and sophomore students at a two-year community college I was able to produce publications with undergraduate students as the first author. I am certain that working with students in the close-knit environment provided by Deep Springs College will provide even greater opportunities for student publications.

My research has focused on ecological aspects of community assembly, biogeography, speciation and taxonomy in plethodontid salamanders. I have recently established a new line of ecological research in conjunction with my service as an Research Experience for Undergraduates (REU) mentor at Mountain Lake Biological Station (MLBS). During the MLBS REU program I lived with the REU's for ten weeks at a remote and rugged field station. This living arrangement greatly facilitated building strong relationships with the students and the environment was conducive to maintaining focus and enabling the completion of research projects. One of my roles in the program at MLBS was to facilitate the recruitment of students at smaller schools without graduate programs. I would be excited to recruit Deep Springs College students for the MLBS REU program. The timing would be ideal because only students at the ends of the second and third years of college are eligible for this program which would make Deep Springs students a natural fit.

If I were hired for this position, I would attempt to connect the courses that I instruct with research projects in a fashion that would help students reach a higher level of mastery of the subject matter and in turn to have the course work shape the research efforts that are attempted. I would be excited to work with the student body to help determine course offerings that would be interesting and well received by the students (understanding that this is likely to change every year). I also believe the Academic Pillar structure of the program at Deep Springs College will be very conducive to my goals of producing scientifically literate students.

My efforts to engage students in research would integrate seamlessly with the Labor Pillar of the program at Deep Springs. Collecting data is very labor intensive, sometimes the labor is physically demanding and it is nearly always mentally demanding and time consuming. Field work involves hiking, being out in hot, dry as well as cold wet weather. Coding analyses requires close attention to details and careful documentation. Lab work is often tedious and requires concentration, organization and careful planning of work flows. I have a very strong record of mentoring students in their first two years of college so I am confident that I can guide students at Deep Springs through the many trials and tribulations of both coursework and research.

Science as an endeavor is aimed at serving community at the level of all humanity. Science is built on the efforts of those who went before and early career scientists (which includes students!) become part of this community as soon as they begin to share their research efforts. My students have often been very surprised at how well their work is received, they often start out thinking that nobody will care about the work they are doing. It is always rewarding to see them realize that they are part of something much bigger than themselves. One of my most successful students (now a post-doc at University of North Carolina) was recently telling some people about how he got his start in research. He stayed after one of my Intro to Bio courses to tell me about his career goals and he asked my about my research program. He then told me that he hoped that he could be a scientist someday and I told him he could be a scientist today! I then showed him my research lab where he started to work with some of my lab members. I told him I didn't remember that specific exchange but that was definitely the kind of thing I would have said because it is my firm belief that even beginning researchers can make important contributions. If hired I would take this same belief and approach to Deep Springs College. The community aspect and self governance of determining research direction and efforts in science is a natural extension of Self-Governance Pillar.

I believe my experiences, accomplishments and dedication to education and scientific research make me well suited for the Herbert Reich Chair of Natural Science position at Deep Springs College. I am excited about the possibility of being able to work in an environment where I can share my passion for teaching and research documenting the ecological and evolutionary processes that shape the Earth's biodiversity with a community of students, faculty and staff that I can impact so directly. I would welcome an opportunity to discuss my teaching and research program in greater detail with you. Thank you for your consideration.

Sincerely,
David A Beamer, Ph.D.