



## Genesis: The Origins of a Research Conference at BYU-Idaho

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The late summer of 2003 turned into a beautiful fall in Logan. It was made all the more beautiful for my having just spent the past year in the enormous effort leading to putting the final touches on the defense of my dissertation. My advisor, David Peak, had invited me to his office in the days before we were to return to Rexburg. His question, which really resonated with me at the time, was, “What are you going to do now? For the next few months, you are the world-wide expert in this tiny area of physics. Don’t waste it.”

I pondered a lot about what I might do. Write a book about what I’d done, certainly try and incorporate the stuff I’d done into my classes, maybe look for someone interested in collaborating to expand my project to a wider audience...

But, with what I felt was some inspiration, I settled on starting a little research group, using undergraduate students to pick interesting topics to study in the broad and somewhat fledgling field of discipline-based educational research. So, I surveyed my classes for students who impressed me and invited them to work with me. Initially,

I sought money for them from the mentored student research funds; then, later, I was able to hire them as research assistants. We looked at how conceptual development was tied to gender biases, how attitudes and reasoning ability affected conceptual development, why students did or didn’t choose a major in physics, what sorts of activities alleviated or exacerbated common misconceptions, how confident students were in their responses was tied to whether or not they were correct, and several other interesting projects.

One of the main reasons I had for encouraging these experiences in my students, was to get them to go to professional conferences and present their work. It would expose them to the wider community of physicists and how that community functions, as well as make them feel a part of it. It would get our work out there, for folks to use our results to improve teaching and learning, and give my students experience presenting. Remembering how nervous I used to be in my first presentations, I wanted a semi-realistic chance for my students to practice their talks before we took them on the road. At first we just reserved a room, and I timed their talks while offering feedback on what they could improve.

Then, I became aware that there were some other folks at BYU-Idaho doing research with students using very similar models to mine. I suggested the possibility of combining for an evening of letting our students practice their talks on each other, but it never panned out, so I went to my dean and asked for \$500 for a guest speaker, some refreshments, and some prizes, and set up the first spring student

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research conference in 2006. I modeled it very much after the professional scientific conference, with parallel sessions of oral talks, and an open poster session. The first conference had about six posters and twelve oral talks, four of which were my own students. All the talks were from the physical and biological sciences. I invited a colleague from BYU (then the dean of the Freshman Experience, Steven Turley) to come and speak about the value of undergraduate student research to the academy, which we held for about a dozen people in the Taylor Chapel. I printed programs, set the sessions, arranged the judges (strong-arming my friends), and set up the refreshment tables. The prizes were laser pointers, key fobs, and t-shirts from the bookstore, accompanied by certificates of achievement I scrambled to print up between the ending of the last session and the awards session ... and it went off swimmingly.

One year later, we ran it again. It grew, but not by much, and I was able to get some more money from the other colleges involved (still mainly biology, physics, chemistry, geology, and engineering). I invited the Director of Public Outreach of the American Physical Society, the Vice President for Research from Utah State University, and the President of the Utah Academy of Arts and Sciences over the years to be our keynote speakers, and the conference grew to where we had about 50 students presenting and it was too much for me to manage alone. Rhonda Seamons, Dean Cloward, Greg Roach, and our department secretary, Melanie Nelson, did yeoman work helping me not to go crazy that week we put it on, and that got us to 2011, where

the University invited me to consider letting someone else be in charge of it, and expand it to include creative works from the arts and literature folks.

Kelly Burgener met with Hector Becerril and I that spring to talk about the future of the conference. I had met Hector before, but only in passing. I sat down with him that spring and showed him what I was doing to get the conference running, and he jointly helped run it that year.

Under his direction and the help from the Academic Office, it has since expanded to every semester, and has several hundred students presenting in nearly every academic area. I suspect it is one of the larger activities of its kind in the country. Considering the beginnings, the purpose for which I originally envisioned it, and the difficulty I had with the University getting rooms reserved, AV support, and someone to come represent the University at the keynote session, I am a little surprised how big it has become. I never intended it to be such a production, but its success I think speaks for itself. It has certainly been a game-changer for the students I have had involved with it. The impact of the vision they gain from this kind of experience on their careers has been profound, and several have spontaneously remarked upon it to me. And that's the reason we do it. ❁

