

Interview with Daniel Low, PhD

By Jacqui Dres

Daniel Low, PhD is a tenured professor and Director of Medical Physics at the Washington University School of Medicine in St. Louis, Missouri. His work specializes in the field of radiation oncology.



Highland Hall Alum
Daniel Low, PhD
Class of '77

Can you tell me about your work as a medical physicist?

My primary concern involves all the technical aspects of treating patients with radiation including quality assurance, making sure our machines are working properly and that our patients receive the proper treatment. Another aspect of our work involves research. One of the areas we're focusing on is how human breathing motion distorts the shape of tumors on CT image scans. This is particularly important for lung cancer patients where an inaccurate image of a tumor will result in an inaccurate radiation treatment. We're presently mapping the breathing process in 3-D and then generating mathematical models to remove breathing artifacts. The result is a more precise picture of a tumor's shape and its location. We may also be able to use this technique for other diseases such as asthma and chronic pulmonary diseases. This is fairly new research, so the applications are not yet widely known in the medical field.

How did you get interested in this field?

I was originally interested in astronomy and I started out as a physics major at Occidental College in Los Angeles. Afterwards I did post graduate studies at Indiana University in their astro-physics program, but I quickly realized that it really wasn't for me. Fortunately, at the university was Cyclotron which, at the time, was a very exciting and state-of-the art nuclear physics facility. I got a job as a graduate research assistant at Cyclotron and then finished my PhD in nuclear physics. It was by chance, on an airplane that I met a Medical Physicist who got me interested in this field and I went on to do post doctorate studies in Medical Physics at MD Anderson in Houston. From there I was hired as an instructor at Washington University and now am the Director of Medical Physics.

Backing up a bit, can you tell me about your education at Highland Hall?

I attended Highland Hall from grades six through twelfth—after having failed miserably at public school. My parents were very worried because I was having social trouble, getting into fights, etc. I think I may also have been what we today call ADD. My parents chose Highland Hall because it was smaller and had more hands-on learning. It made a profound difference on me and the problems stopped almost immediately. There was much more attention that you didn't get in public school and the kids seemed nicer, or at least it seemed that way. There was much more emphasis on the spiritual and emotional, rather than just facts. And that rubbed off on the kids.

Were you challenged academically?

I was. Although I was good at science and math, I was learning totally different things. Every six weeks our main lesson topic changed—and I mean it vastly changed—and this really worked for me.

What classes do you remember as having an impact on you?

Eurythmy was quite helpful in a lot of ways, especially for a guy like me who wasn't into sports. Getting a sense of how your body works and learning how to do different moves was really useful. I found that later on in life I wasn't afraid of trying different things, such as dancing or karate, because of my experience in Eurythmy.

Do you think you were well prepared for college?

I was quite impressed actually. I was surprised to find that I was very well prepared compared to many of those who had come from the so called “academic” schools. The complexity and diversity of what I was learning helped tremendously.

One of the concerns I had about going to a touchy-feely school where they de-emphasized tests and grades was that I would show up in this hard core university and I’d be blown away by these people who were super skilled at taking tests. But the reality was that I was better than almost any of them at taking notes—because I had taken them since the sixth grade. In order to create your main lesson book you had to jot stuff down. Having gone through all these different experiences and classes also put me in the frame of mind that hey, if I want to do something, I can do it.

What do you value most about your experience Highland Hall?

Primarily the lack of fear of trying something new. I think this has been the most long lasting. But also the stabilization, at the time, of my ‘social decay,’ if you want to call it that. They sort of brought me back out of what I was going to become—had I stayed in public school.

I also appreciate the huge variety of subjects and experiences that you take away. That’s something that few other people have. You might say that all this other stuff compromises the academic learning, but the reality is that it wasn’t the case. I have no idea why AP classes are such a big deal today. It isn’t clear to me that rushing kids’ academics makes them any better at anything.

Would you recommend a Waldorf education for someone looking for a private school for their child?

Absolutely. If there was a Waldorf high school in St. Louis, I’d definitely want my daughter to go there.