

NCW 2007: The Many Faces of Chemistry

Career Profile: Biological Psychologist and Artist

by Amy Sweetman

Describe your present position.

I am currently a Professor of Psychology at Los Angeles City College, an inner city community college close to Hollywood, California. The subject I teach that most specifically relates to chemistry is biological psychology, which seeks to explain behavior in terms of biological events. A key emphasis in the course is studying how combinations of neurotransmitters and hormones, which are internal brain and body chemicals, determine behavioral expression.

As a community college instructor, I have great freedom of creative expression in the classroom as well as time off to pursue studies in my own field and personal interests. I typically have summers and winters off and work an average of 20 hours a week on campus.

My time off has allowed me to pursue an interest that I have turned into a business—jewelry making. While researching neurotransmitters, I stumbled across a University of Florida Web site that showcased photographs of neurotransmitters and other chemicals under a powerful optical microscope. The pictures were incredible, and I instantly felt the desire to turn them into jewelry. After being granted a contract from the University to use the pictures, I started my business, Dopamine Jewelry. My



Jewelry designed by Amy Sweetman.

**“Your vocation lies at the crossroads
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jewelry is now sold in many science museums across the country. The jewelry is not only beautiful, but I also include an educational card with every piece detailing the basic functions of the chemical shown and its impact on behavior.

Did you get to your present position because of your background in chemistry and area of specialization or did life experience(s) take you there?

It can be difficult to secure a full-time position at a community college. When I was hired, my department wanted someone with a strong biological psychology background. Many psychologists do not have a strong foundation in this area, as their education focused more on the therapeutic aspect of psychology. My strong science background was a determining factor in my receiving the position.

In what areas of chemistry did you specialize?

Chemistry is part of everything in our lives, but the aspect of chemistry that most fascinates me is chemistry as it relates to behavior. For example, depression tends to be associated with low levels of a chemical called serotonin; learning tends to occur as a result of repetitive action of a chemical called glutamate; and virtually all aspects of pleasure are influenced by a chemical called dopamine. The combination of brain chemicals at any given second is what determines our every thought and behavior. For many of my students, it is an incredible realization that every idea that we have is simply a result of our brain chemistry!

Do you use chemistry on a daily basis? Describe what you do on a day-to-day basis.

Everyone uses chemistry on a daily basis to some degree. For example, anyone who cooks is using a form of chemistry. Personally, I use chemicals in my jewelry making business. The coating for the jewelry is a sealant for the pictures. This coating is a mixture of chemicals. Its combination must be exact or it will not work. Virtually all of my research for my biological psychology course focuses on brain chemistry.

Describe the personal skills that have played an essential role in your present position.

The most important personal skill involved in becoming a teacher is enthusiasm for the subject matter. The main characteristic of all great teachers is that they love learning about their field of study. This enthusiasm translates into inspiring others to be excited about course material. A truly great teacher can take very complex issues, simplify them (due to their depth of

photo by Amy Sweetman: www.dopaminejewelry.com

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understanding and effective communication), and give these issues meaning so others can learn the material.

With regard to starting your own business, enthusiasm is a must. You must believe and feel very strongly about your product. You must be willing to put in the necessary time and effort and deal with the rejection that accompanies building your business from the bottom up. Personal discipline is a strength in every profession.

What advice do you have for those who wish to pursue this or some other nontraditional career path?

I saw a quote that went something like this: "Your vocation lies at the crossroads of your passion and your strengths."

We each have unique inner qualities. The key is to identify your strengths, determine a personal vision for your life, and then combine the two. Once you have determined a personal vision, talking to other people can be helpful. Many times other people make suggestions or introduce connections that we individually would have never come up with on our own.

How and where can readers learn more about this type of career?

A few related Web sites (accessed Jul 2007):

Career: Professor. <http://www.princetonreview.com/cte/profiles/dayInLife.asp?careerID=127>

U.S. Department of Labor, Occupational Outlook Handbook: Teachers–Postsecondary. <http://www.bls.gov/oco/ocos066.htm>

Jewelry business related articles. <http://jewelrymaking.about.com/library/blbiztp.htm>

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Related Resources

1. Frankel, Felice. Communicating Science Through Photography. *J. Chem. Educ.* **2001**, *78*, 1312.
2. Veca, A.; Dreisbach, J. H. Classical Neurotransmitters and Their Significance within the Nervous System. *J. Chem. Educ.* **1988**, *65*, 108.