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A Career with Passion in The Sciences

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"A river cuts through rock, not because of its power, but because of its persistence." – Jim Watkins. A career is a lifelong endeavor that has many twists and turns, and at each stage of a career, devoting one's head, heart and passion to the work will bring the greatest success. My passion for the sciences started when I was fifteen years old. One day, I opened my Biology textbook and I saw the most compelling image with smooth edges and lovely shading of grays that highlighted the dimpled middle of the donut-like body. The text below the image described it as a Scanning Electron Microscope Image of a red blood cell, and I fell in love with SEM for life. I had the great fortune of gaining access to hands-on use of an SEM and a TEM as a Biology undergraduate student which was rare in the mid-90's, but very valuable. With that experience on my resume, I quickly secured my first job within one month of graduation, and my lifelong career in Electron Microscopy began.

I started working in the Applications lab for a commercial manufacturer of electron microscopy components, and this industry setting offers perspectives and opportunities that are different compared to an Academic or R&D environment. The Apps labs deal with how the EM products apply to various customer needs, and Apps scientists are often called upon to use their product knowledge and expertise to solve customer challenges in a great variety of fields in materials and life sciences [1]. This type of position can be very interesting because of the wide range of scientific applications where you can create interesting works [2], but also challenging due to the need to adapt to many different specific requests.

In an industry environment, a scientist is presented with several different career paths, and one can grow according to their own unique strengths and preferences. Typical growth paths include the more obvious move into a senior scientist role, into a management trajectory, or even a sales or product role. It's very important to be aware of one's true strengths and goals, and then to create a plan and strategy to reach the future stages in one's career. For example, when I was the US App Lab manager, I recognized the need to have a global alignment of all the regional labs to maximize communications between regional scientists, to pool our knowledge and to all grow together. I drafted a plan for this position and pursued it for years until it became my new job!

Another important aspect of a successful career is a mindset to never stop learning and growing. A great advantage of working for a large company is their recognition that when an employee increases their skills and knowledge, the company also benefits, and many will offer tuition reimbursement programs for graduate studies relevant to the employee's work [3]. Both myself and many of my colleagues at various levels in science or business/management gained from this industry perk. The keys to a successful career with passion include recognizing one's true strengths, creating a plan to build on them, taking every opportunity to learn and grow, and finally devoting one's heart and mind every day.

[1] Anderhalt *et al*, Microscopy & Microanalysis Proceedings (2010).

[2] Nylese, T Berry, A and Oscher, S, Microscopy Today Volume 23, Issue 2 (2015), p. 26 – 31.
[3] The Most Desirable Employee Benefits, https://hbr.org/2017/02/the-most-desirable-employee-benefits (March 15, 2019).

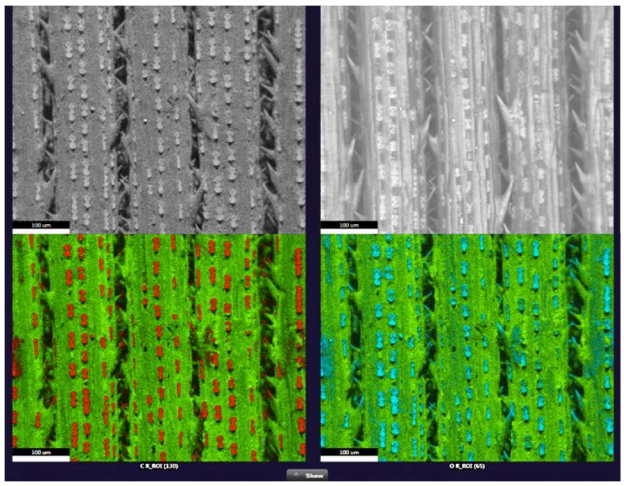

Figure 1. SEM image and EDS maps showing Silicon and Oxygen which are present below the surface of a blade of sawgrass [2].

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