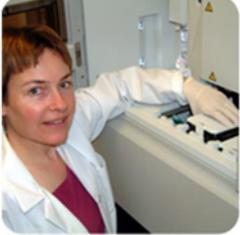


Ellen Sisk, MS Manager, DNA Sequencing Core Facility

<p style="text-align: center;">DNA Sequencing Core Manager Ellen Sisk</p>  <p>Place of Employment: Seattle Biomedical Research Institute</p> <p>Type of Work: Manages the DNA Sequencing "Core." The Core is a centralized facility that provides DNA sequencing for all the researchers at the Institute</p> <p>The Seattle BioMed Sequencing Core facility has been in operation for over 18 years and offers DNA sequencing and analysis to Seattle's scientific community, as well as international scientists and organizations. Our service provides cost-effective solutions for small laboratories without access to sequencing technology.</p>	<p style="text-align: center;">Careers in the Spotlight: DNA Sequencing Core Lab Manager</p> <p>What do they do? The manager oversees the core lab facility. These types of facilities make it possible to perform DNA sequencing reactions and analysis for many different researchers at a given institution, company, or university. The Core lab facility makes it possible for many researchers to share the same DNA sequencing facility and expertise of technicians and the Core Lab Manager.</p> <p>What kind of training is involved? Bachelor's degree in biology, molecular biology, biochemistry or related discipline. Some have a Masters degree or a PhD.</p> <p>What is a typical salary for a Core Manager? Salaries vary with experience and range from \$50-\$100,000 per year (\$24-\$48/hour).</p> <p style="text-align: right;"><small>Source: Genome Technology Salary Survey 2010</small></p>
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1. Where did you grow up?

Richland, Washington. My father was an electrical engineer at Hanford right after WWII and my mother's father was a security guard at the Hanford site, so I was an atomic baby.

2. What do you do (i.e. what career or field are you in, what is the title of your position)?

My field is Molecular Biology, and I am manager of the Seattle BioMed Sequencing Core Facility.

3. How did you choose your career? When did you first know this is the career you wanted?

I loved biology in high school and decided to study molecular biology in college. After graduating from the Evergreen State College, I worked as a brew chemist at the Olympia Brewery and soon realized that I would become restless with the routine of quality assurance, so I applied for a research job at the Battelle Pacific Northwest National Laboratory in Richland. At Battelle, I ran the first commercially-made automated DNA sequencer as part of the research project I was working on. I was also able to obtain my Master's degree at the Washington State University branch campus during that time and my thesis described how aqueous electrons created by exposure to radiation can migrate along DNA strands and cause damage.

4. Did your family support your decision to pursue your career?

My parents couldn't afford to financially help us with college (I have nine siblings) but they were proud that I was able to support myself through school with Pell grants and loans from my older sister. My other sisters and brothers were very supportive.

5. What is the highest level of education you have?

Master of Science in Biology

6. What is the highest level of education reached by other members of your family?

Master's degree.

7. What is the salary range for a person in your position?

I'm guessing between \$55,000 and \$80,000/year (\$26-\$38/hour) depending on the size of the facility and years of experience.

8. What do you like most about your job?

The autonomy of making decisions about how the facility is run, and the satisfaction of knowing that I am providing a valuable service that supports research and clinical diagnoses.

9. What do you like least about your job?

The pressure of being in charge all the time can sometimes feel stressful, especially when the instrument is down and customers are eager for their data!

10. What's an abbreviated day-in-the-life of your job?

Customers request sequencing services through our web site and when samples come in they are automatically entered into our database, which stores a record of each sample along with the requester's name, lab, date, etc. Samples are processed in plates of 96 and we run 1-4 plates per day. Sequencing results are reviewed and sent to the customer. In addition to sequencing DNA samples, we isolate plasmid DNA for customers and perform PCR reactions. We also maintain a RealTime PCR instrument for institute users. On a typical day, I may also troubleshoot issues customers are having with data quality, respond to questions about our services and create online accounts for new customers.

We are a **CLIA (Clinical Laboratory Improvement Amendment) certified** DNA sequencing facility which means the data we produce might be used to diagnose a disease or genetic disorder. Therefore, we are required by federal law to record the temperatures of our storage equipment, the lot numbers and expiration dates of our reagents, write up and follow protocols, and perform an equipment maintenance schedule. I am also responsible for submitting customer charges each month and keeping within our budget by monitoring costs and revenue. I supervise a technician who shares sequencing and other tasks with me.

11. How would you describe how you use bioinformatics in your work? If you don't use bioinformatics directly in your work, how has bioinformatics impacted your career field?

Bioinformatics is crucial in the DNA sequencing field for data interpretation, storage and tracking, for the identification of genes and other important DNA elements, and for downstream applications of the data, to name a few examples. This field is expanding rapidly with the enormous amount of data produced by the next generation sequencing instruments. In my work I personally use DNA analysis software to translate the raw signal from the machine into sequence data and to align and compare sequences. I also use BLAST and GenBank to identify proteins or organisms. We have a large database where we store and track information about samples and customers.

12. Do you have any recommendations for students who are interested in entering your field?

If I were interested in genetics as a young person, I would consider genetic counseling. I think we are very close to the affordable “personal genome” and lay people will need help in deciphering the information and understanding its implications. A dual degree in molecular biology and information sciences also seems like a good idea for students interested in bioinformatics.

13. What are your favorite hobbies?

Traveling, mosaics, reading, hiking, biking and movies.

Resources:

- Seattle Biomedical Research Institute (Seattle Biomed): <http://www.seattlebiomed.org/>
- Seattle BioMed Sequencing Core Facility: <http://www.seattlebiomed.org/sequencing>
- To learn about **job prospects** and **salary information** about **Natural Sciences Managers** visit the US Bureau of Labor Statistics for Engineering and: <http://www.bls.gov/oco/ocos009.htm>