



A life in Science

Kate Gunning has a unique background in the field of biotechnology and the life sciences. With a focus on applications in genomics she has demonstrated expertise in both process and product development. She talks to Silicon Valley Global about her life at the cutting edge of science.

In her current role as Principal/Lead Technology Consultant at Biovisability, Kate's main focus is on working with emerging biotech companies and bio-innovation facilities both in the US and in Europe to further bioscience discovery and commercialization. A graduate of the Dublin Institute of Technology, she began her career in Nuclear Medicine and Clinical Pathology in Dublin and London, UK.

Your Twitter bio says you are “passionate about innovation, entrepreneurship, film, social justice, and Ireland.” With regards to innovation and entrepreneurship, can you tell us about your path and how you got to where you are today?

I started as a scientist with qualifications from the Dublin Institute of Technology and began my career in clinical chemistry and was very entrenched in that space for a number of years. After getting a Donnelly Visa, I came to the United States and transitioned into the genomic space in molecular biology. I was introduced to people at Lawrence Berkeley labs back in the mid-90s where the Human Genome Project was taking off and I was privileged to get in on the ground with a growing group at the Department of Energy and became involved with the engineering side of the Genome Project. I then worked at Applied Biosystems where I became more focused on product development and was fortunate to spend time working with customers from all over the world. I had opportunities to interact with many different groups within a large corporation which gave me a broad understanding of science, product development, marketing, and the voice of the customer.

I transitioned into consultancy and realized pretty quickly that there was a need to work with Irish companies who wanted to expand their businesses here in the US. I began working with the development agencies both North and South - with Invest Northern Ireland and with Enterprise Ireland in particular - and found that there were opportunities to work directly with those organizations in helping them expand the emerging life science and healthcare companies coming out of Ireland. It was of interest to these organizations to have people on the ground who knew the landscape and understood how the industry was developing here on the West Coast. Having an understanding of how business



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was done in Europe and also the differences in translating those businesses, and how the healthcare system is different here in the US was very important as well. I love working with innovators and especially at the early stages in their development and my clients include other international start-ups and universities.

Being able to work with Irish companies in the US was something that I hadn't envisioned but has given me a feeling that I have the best of both worlds. I now have more opportunities to travel to Ireland and feel very fortunate that I can be their representative here but also get a chance to connect and build my relationships back in Ireland. I am very lucky.

You were on the cutting edge of science when you worked on the Human Genome Project. What was that experience like?

This was such an exciting time in science and in my career. I had a clinical background and had moved to genomics where I found that I had a love for robotics and automation. At that time, there was a great need to speed up how we were sequencing DNA. I had the opportunity to get involved with the engineering side of the genome project in designing new automation to accelerate and industrialize the molecular science processes. I relished my time in the genome lab. My career advanced pretty rapidly

because there was no holding back. There were no barriers to our advancement. It was important to learn how to lead because we grew at such an accelerated rate. Over the course of six years we brought three genome labs together and I was part of that team and I embraced it all. It was very fulfilling to be in an environment where everyone was engrossed in the work and very supportive of each other. We were all on the same path at an exciting point in science.

It seems that there is a strong presence of women in your field compared to other STEM fields. Why do you think that is?

I think in the biosciences you definitely see more women. It is attractive, and it is taught well in schools. In physical sciences and in engineering, there still is a higher percentage of men and I think that is partly because there has been less emphasis on women in the analytical sciences and also because mathematics has been perceived to be more challenging. We need to be more encouraging of women to get involved in the physical sciences and to help them understand that it will open up a lot more worlds to them, particularly in the engineering field.

You've been an avid mentor for young professionals and emerging entrepreneurs and this includes being a mentor at the UC Berkeley Center for Entrepreneurship and Technology. Why do you feel mentorship is so critical and how has mentorship made a difference for you?

I definitely think mentorship is hugely important, whether you seek it out or whether you admire and watch somebody from afar. I didn't directly seek out a mentor, but I had a boss when I was in my early 30s who believed in me and who saw the opportunities to advance my career faster than I did myself. So, mentorship happened more organically for me. I was fortunate to have had this person in my court and they really helped me shape my career when I wasn't even being as strategic about it as I could have been. I see young professionals now who want to progress quickly and are strategic, but having somebody with more experience and more wisdom to help them think more expansively about their careers and to help them understand that making mistakes is okay, is really important.



At San Quentin, where The Last Mile began the first accelerator program, prisoners learn how to create a business that includes a technology component and a social cause. The computer coding curriculum includes HTML, JavaScript, CSS, and Python.

With regards to your passion for social justice, you're very involved in the organization; The Last Mile. How did you get involved and why did supporting this particular organization appeal to you?

The Last Mile is a program that provides career training in prison with mentorship and job placement upon release. The US has 5% of the world population but has 25% of the world's incarcerated population and a 60% recidivism rate. This is a huge problem that needs to be addressed. I learned about The Last Mile through my connections at RocketSpace, a company that supports tech startups as they scale, and where some of the employees are graduates of the program. I immediately felt a very strong need to get involved because I believed this was such an amazing opportunity to help people prior to their release, the "returned citizens", have an opportunity to get jobs and not to return to prison. I was

enthralled with the opportunity to work with people on either side of the prison wall, and felt it was extremely valuable and another way for me to contribute from an innovation and entrepreneurship perspective.

At San Quentin, where TLM began the first accelerator program, prisoners learn how to create a business that includes a technology component and a social cause. We also have a computer coding curriculum where the men learn HTML, JavaScript, CSS, and Python. In 2016 we launched a web development shop inside San Quentin, TLMWorks, where we employ graduates as software engineers and have been contracted by companies such as Airbnb. I am very proud that we have had 0% recidivism and 100% employment of everybody who has come through the program, and expanded to other prisons, including more recently to Indiana.

You are very active in the bay area Irish community including your role as executive director of the San Francisco Irish Film Festival. How and why did you become involved in this program?

I got involved with the Irish Film Festival about eight years ago as a volunteer to help with their marketing and sponsorship. My role has changed and grown since then, so much so that I took over as executive director two years ago. I love the fact that the Irish are making amazing films, and this is the one organization that allows the Irish community, the Irish-American community and the wider Bay Area community, to experience films we wouldn't normally get access to. It is a great opportunity to bring Irish film makers to the Bay Area and to expose our local community to the diversity and richness of their work and to bring an awareness to this great art of film making that is coming out of Ireland.



I work with Culture Ireland and the Irish Film Institute and they are immensely supportive in helping us bring the film makers and their films to the US. I myself do not have a background in film and am not so artistic or creative but I definitely love and appreciate what other people do and I just love that we can share it. That to me is the most important thing, especially for those who are living here in the US, who feel a disconnect sometimes from Ireland. There is nothing better than seeing Irish people come to the festival and walk away thrilled that they got this great experience about Ireland from an Irish film maker.

It is fascinating to learn how you have managed to weave all of your passions and skills to create this web of Irish and American relationships. With that said, what do you miss most about Ireland, or do you feel you have actually built enough of a connection that you now have the best of both worlds?

We need to be more encouraging of women to get involved in the physical sciences and to help them understand that it will open up a lot more worlds to them, particularly in the engineering field.

I do feel like I have the best of both worlds. I've been lucky to be able to engineer my career so much that I am surrounded by Irish people and Irish culture. I would love to spend more time in Ireland and I aim to do that as much as I can, but I get to interact with Irish people both here and when I go home. I miss the warmth of the Irish people on a daily basis, but I have a great community in the Bay Area who have been out of Ireland for 10, 15, 20 years and who are in the same situation, and that Irishness never goes away. I think I miss the beauty of the countryside and, coming from Dun Laoghaire, there's nothing I love more than going for a walk down the pier, but I feel like sometimes I am back on that pier when I walk down Crissy Field and get access to the bay. The Irish connections here in the Bay Area are so strong and valuable and I feel very lucky to be a part of a community that works hard to maintain strong links back to Ireland and works hard to support and care for each other.