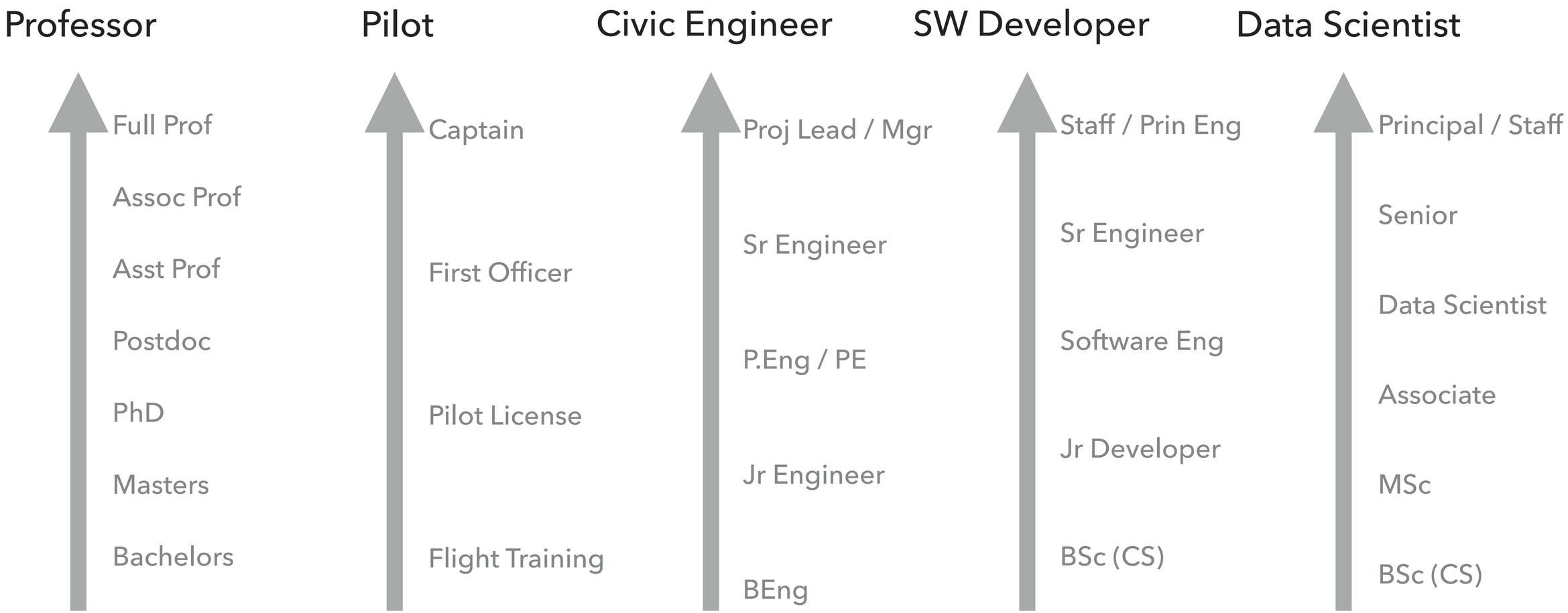
MAR 3, 2026

INSPIRING FUTURE WOMEN IN SCIENCE @ PI

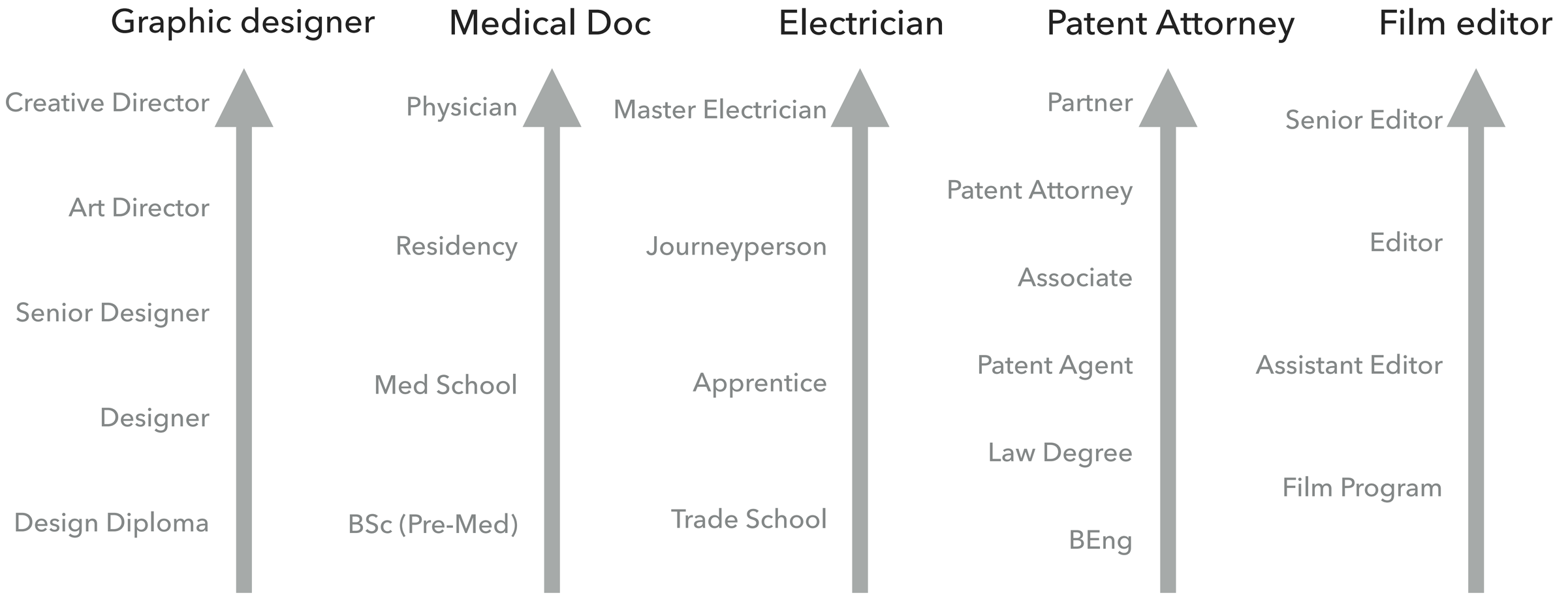
HOW TO HAVE A FULFILLING CAREER: IN SCIENCE (OR NOT)

Aggie Branczyk, **Quantum Salon**

CHOOSING A CAREER PATH

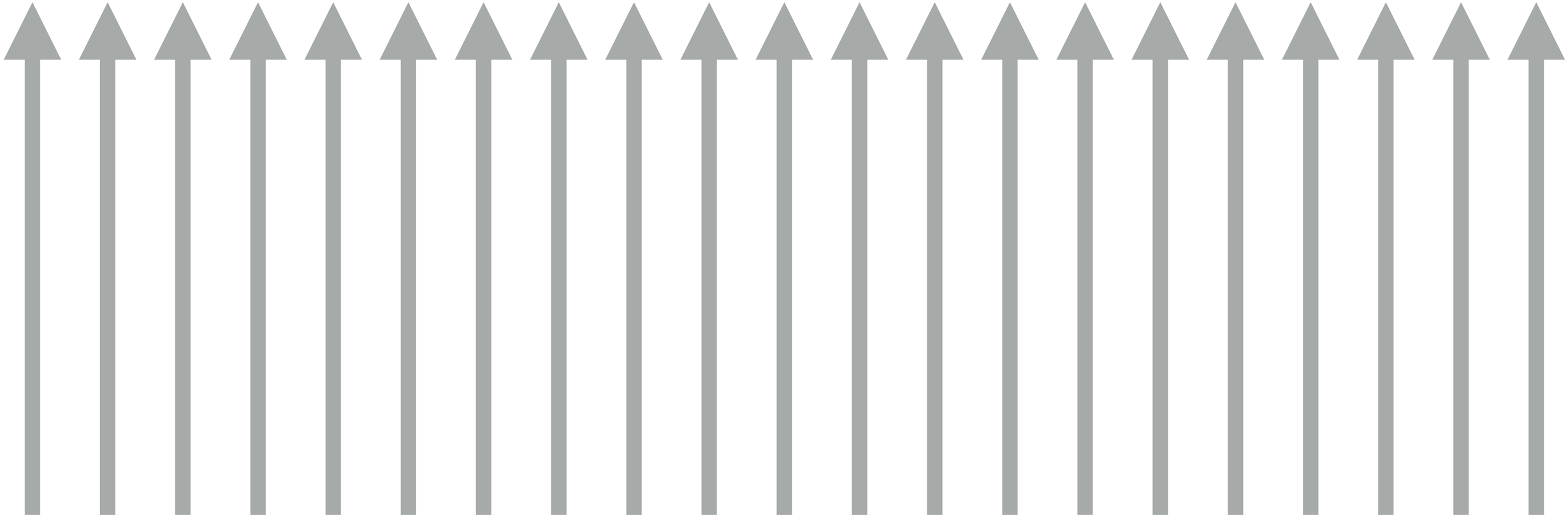


CHOOSING A CAREER PATH



CHOOSING A CAREER PATH

Professor
Executive Asst.
Investment Banker
Graphic designer
Pilot
CEO
Lawyer
Medical Doc
Civic Engineer
HR
Chef
Electrician
SW Developer
Influencer
Biz Dev
Patent Attorney
Film editor
Sales
Events Coordinator
Data Scientist



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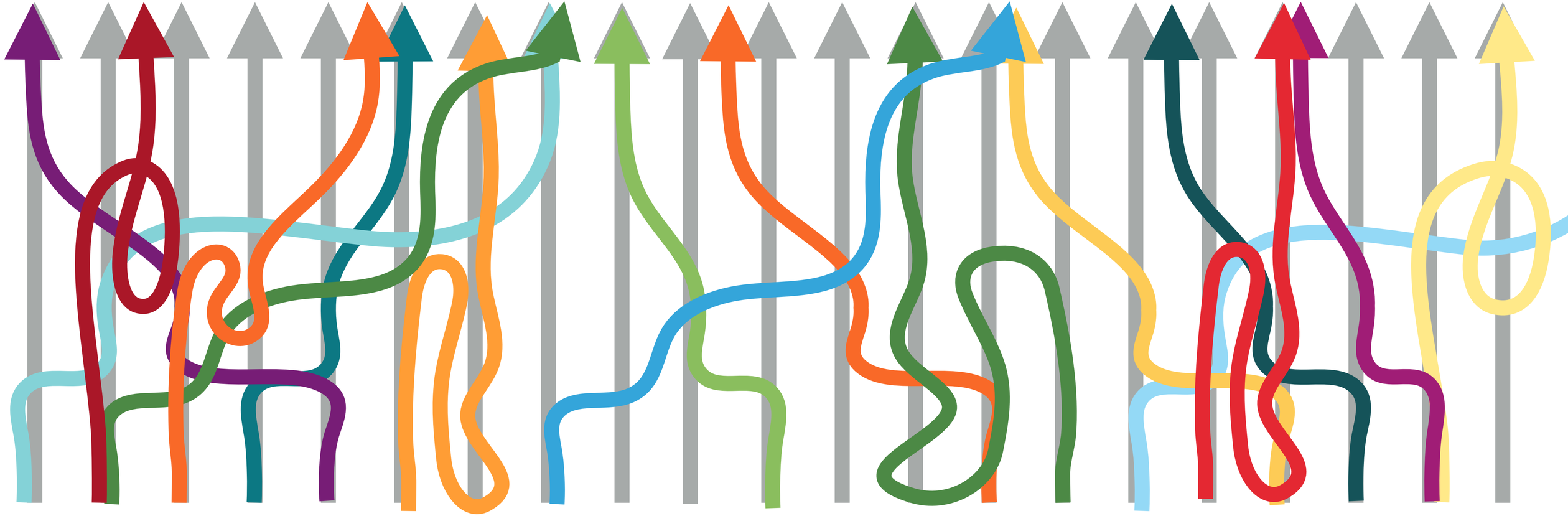
CHOOSING A CAREER PATH

NONLINEAR CAREERS!

SCARY? OR LIBERATING?



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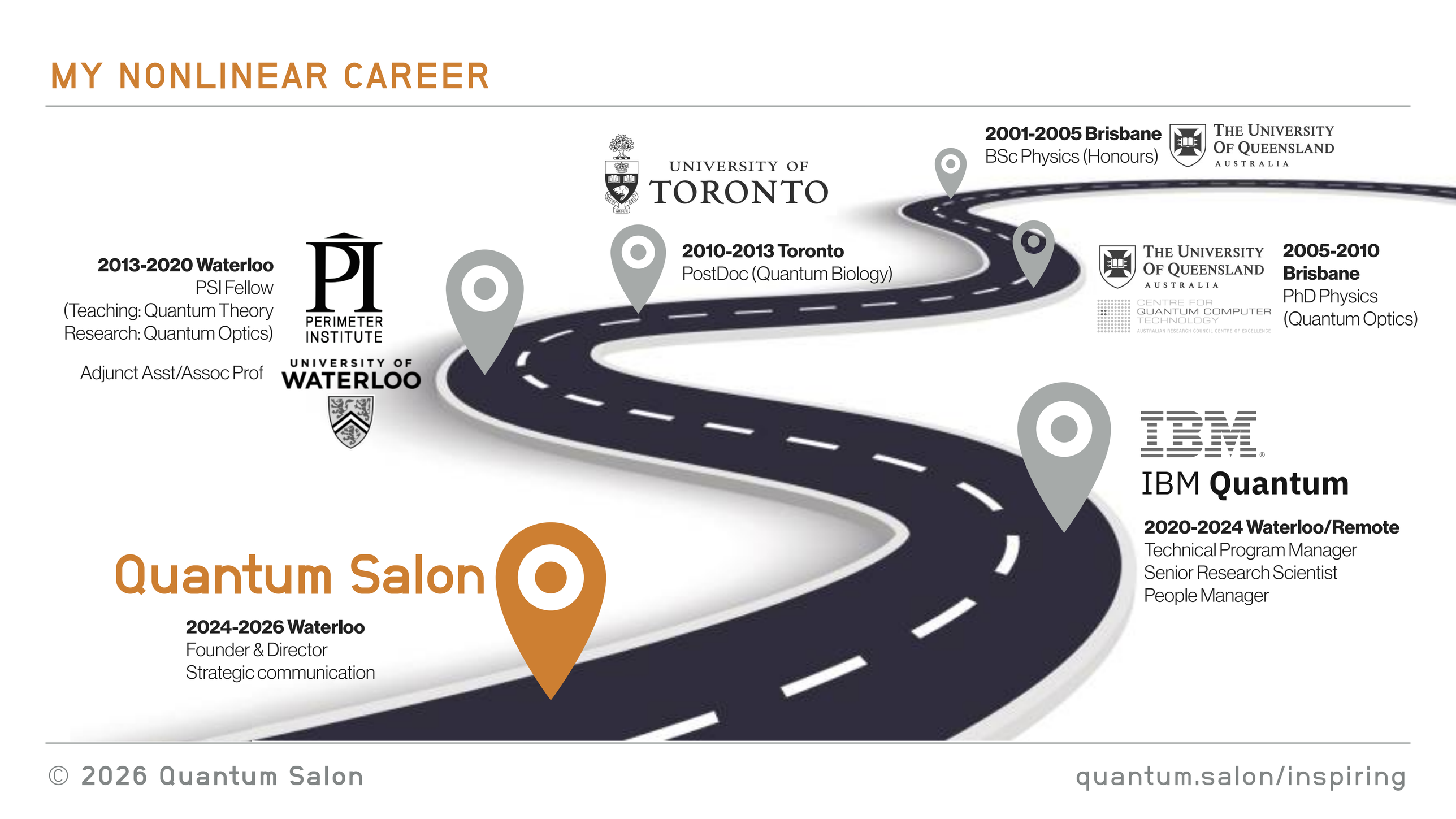
MY NONLINEAR CAREER



2001-2005 Brisbane
BSc Physics (Honours)
THE UNIVERSITY OF QUEENSLAND AUSTRALIA

2005-2010 Brisbane
PhD Physics
(Quantum Optics)
THE UNIVERSITY OF QUEENSLAND AUSTRALIA
CENTRE FOR QUANTUM COMPUTER TECHNOLOGY
AUSTRALIAN RESEARCH COUNCIL CENTRE OF EXCELLENCE

2010-2013 Toronto
PostDoc (Quantum Biology)
UNIVERSITY OF TORONTO

2013-2020 Waterloo
PSI Fellow
(Teaching: Quantum Theory
Research: Quantum Optics)
PERIMETER INSTITUTE

Adjunct Asst/Assoc Prof
UNIVERSITY OF WATERLOO

2020-2024 Waterloo/Remote
IBM **Quantum**
Technical Program Manager
Senior Research Scientist
People Manager

Quantum Salon

2024-2026 Waterloo
Founder & Director
Strategic communication

QUANTUM SALON

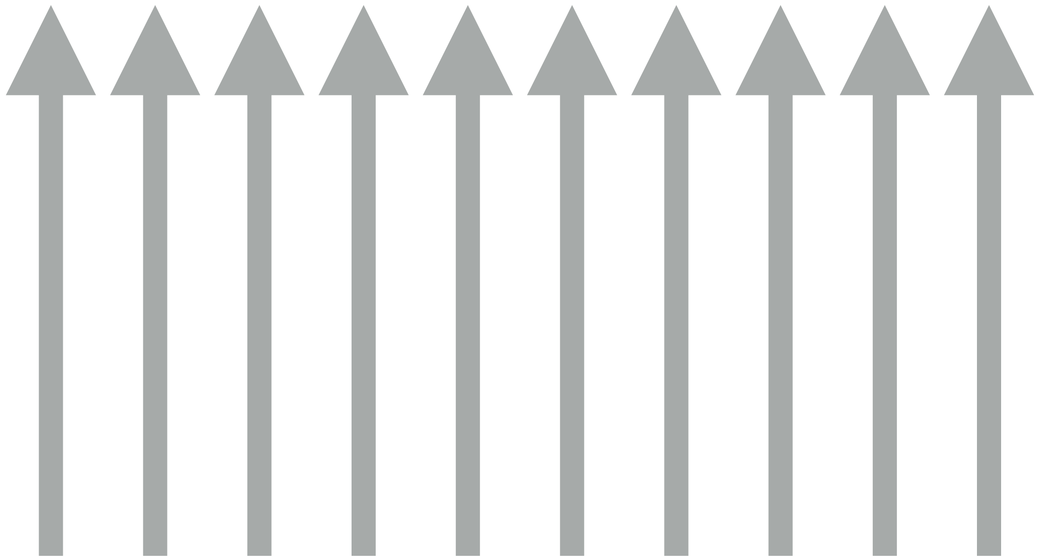
A strategic communication studio, working within the quantum tech ecosystem.

- **Communication:** we work with quantum technology startups and organizations to help them explain what they do and why it matters.
- **Insights:** we study the quantum ecosystem and share what we learn with the community.
- **Exploration:** we're building an interactive visual map of the quantum ecosystem to help people understand how it all fits together.

BUT YOU CAN PREPARE FOR ONE

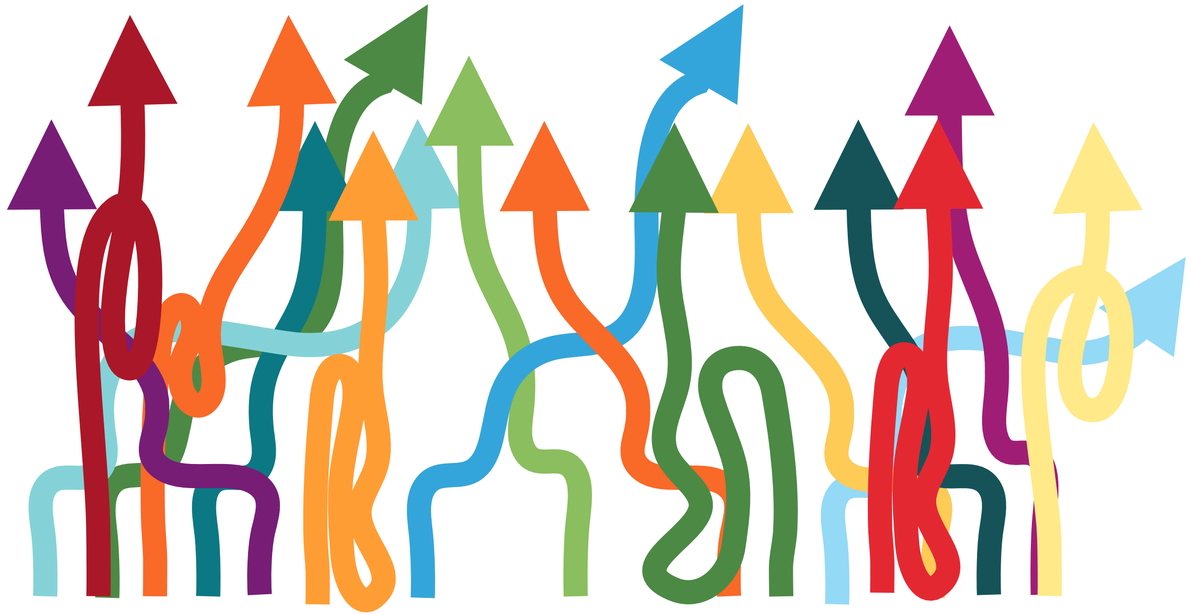
Linear career:

- you internalize "success" from your professional peers
- this helps you measure progress & guide you



Nonlinear career:

- you still need something to measure progress & guide you
- you have to define your own idea of "success"

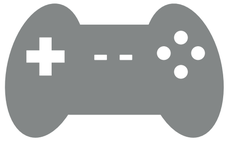


A DEFINITION OF SUCCESS I LIKE: TO DO FULFILLING WORK

What makes a job fulfilling?

- **Creativity:** getting to figure things out your own way instead of just doing what you're told

- **Impact:** working on things that actually make a difference to other people



- **Control:** having a say in what you work on and how you do it

- **Relatedness:** feeling like you belong and that the people you work with matter to you

"So Good They Can't Ignore You" by Cal Newport

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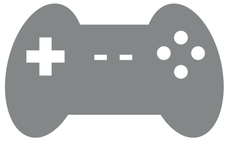

- Control

- Relatedness

Jobs that have these traits are **rare** and **valuable**.

Supply and demand tells us that:

If you want a job with these traits, you need something **rare** and **valuable** to offer in return.

CAREER CAPITAL

"So Good They Can't Ignore You" by Cal Newport

CAREER CAPITAL

Some examples of career capital:

- **Skills:** what you can actually do well that other people find useful

- **Reputation:** what people believe about your ability and reliability

- **Network:** people who know you, trust you, and can open doors

- What about **grades**, **degrees**, **certificates**, etc?

(rare & valuable skills or rare & valuable **combinations** of skills)

CAREER CAPITAL

Some examples of career capital:

- Skills

- Reputation

- Network

Different careers

(whether linear or nonlinear)

will prioritize different

kinds of skills (or combinations of skills).

Which kinds should *you* acquire?

ACQUIRING CAREER CAPITAL WILL TAKE A LOT OF WORK

Most people can achieve most things if they work hard.

Odds are that if you work hard at something, you will get good at it, and eventually even like it.

But I think the **experience** on the way matters.

Hard work can be **agony**. Or it can be **joy**.

😫 😫 😫 😊 😊 😊

I think you should do work that is joyful and motivates you.

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Things that motivate people to work hard are:

- Curiosity
- Delight
- Desire to do something impressive

"How to do Great Work" by Paul Graham

STAYING MOTIVATED

1. Start by following your curiosity, then listen to what delights you.

2. Listen to which kind of work gives you energy vs which kind drains you.

    - Does it feel like you're swimming against a current? Or riding the wave?

3. Choose the work that gives you energy and carries you along.

Now, I'm not advocating being lazy, avoiding hard things, or being fickle…

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By working hard at work you like, you'll get good at work you like, and you will be rewarded with **more work that you like**. 😊

By working hard at work you *don't* like, you'll get good at work you *don't* like, and you will be rewarded with **more work that you *don't* like**. 😫

How do you know which skills are valuable?

TALK TO PEOPLE

I can’t overstate the importance of talking to people:

- You can find a lot of information on the internet and in books and other media, but this does not give you the whole picture of how the world works.

> Talking to people will give you the best sense of what people consider valuable.

- There are important things people won’t say in public but they will say one-on-one face-to-face.
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- Being able to have a conversation in real time will give you knowledge you couldn’t get passively.

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BONUS: REPUTATION & NETWORK

HOMEWORK

It can be nerve-racking to reach out to people you don't know for a conversation. To make it easier, you can:

- Attend events like this one!
- Ask your parents or teachers to introduce you to people with different careers.
- You can also use this line:

> *"I attended a career event and the speaker gave me homework to interview three people whose careers I found interesting. I would like to learn about your career. Would you have time for a short chat?"*

Safety notice: ask your parents if they are ok with you doing this (they might want to hang out in the room off-camera during the video call).

LET'S TALK ABOUT SCIENCE

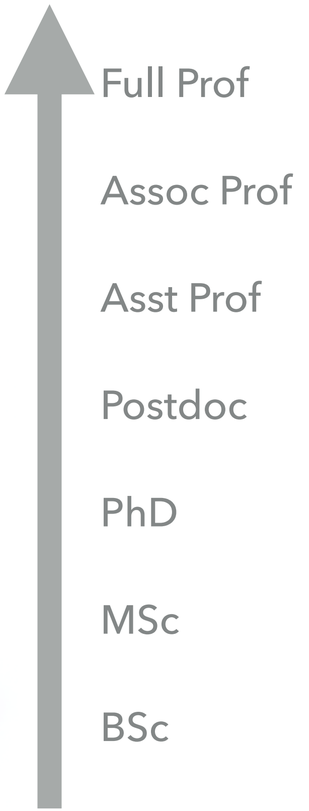
Some rough numbers (ChatGPT):

- ~3% of BSc graduates complete a PhD
- ~15% of PhDs become professors

So if most people who do science don't become a professor, where does a science degree lead?

Almost anywhere.

We will see some examples during the day!



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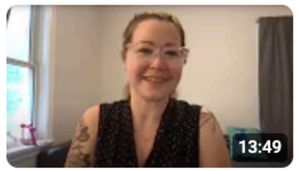

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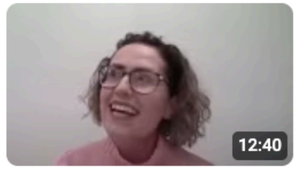

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SHOULD YOU DO SCIENCE?

If you have curiosity and an aptitude for science, a science degree is a great next step.

Even if you don’t know where you want it to lead you.

A science degree is a wonderful experience and it will teach you rare & valuable skills, useful whether you become a prof or not.

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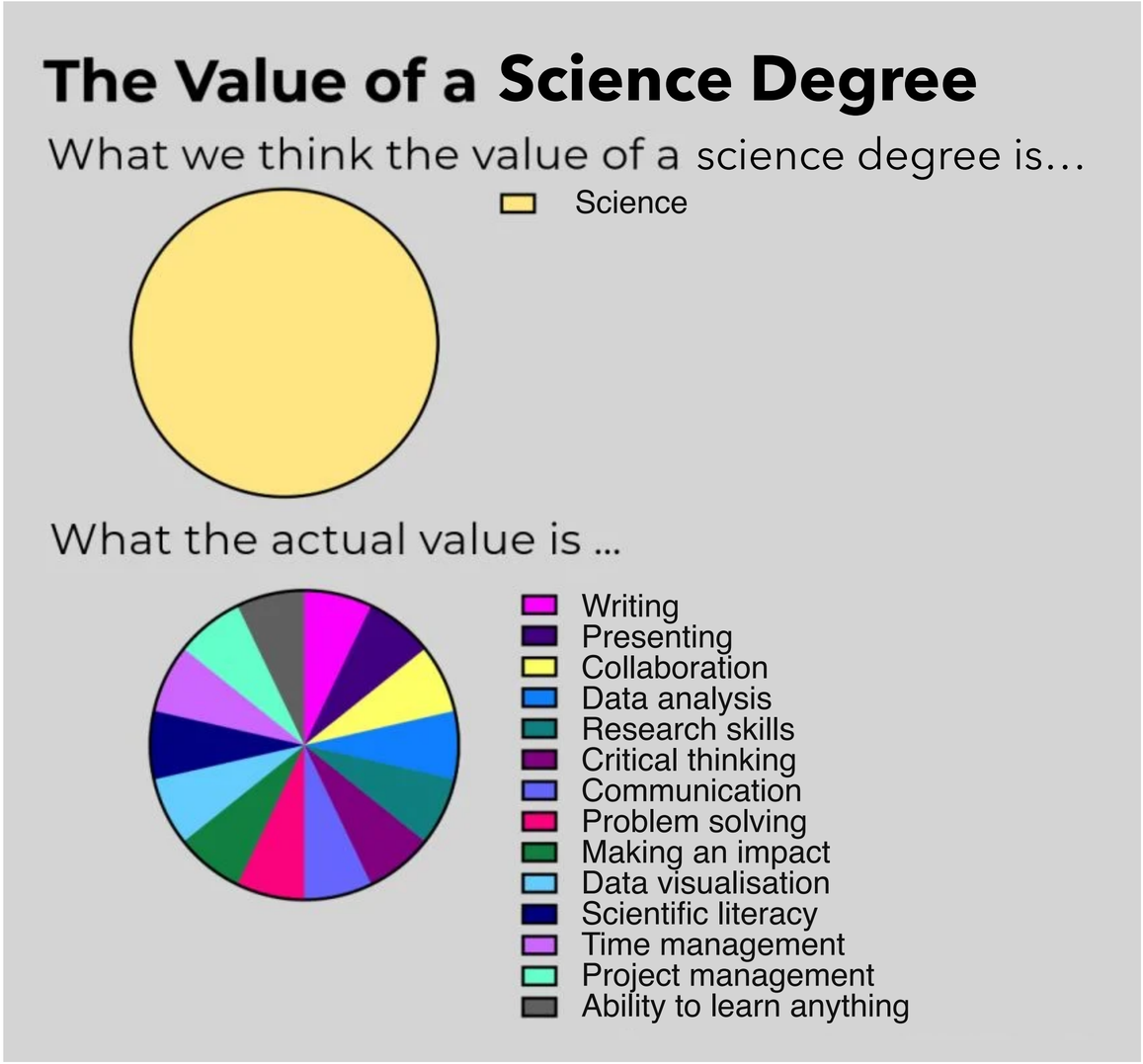
Adapted from a PhD graphic by:

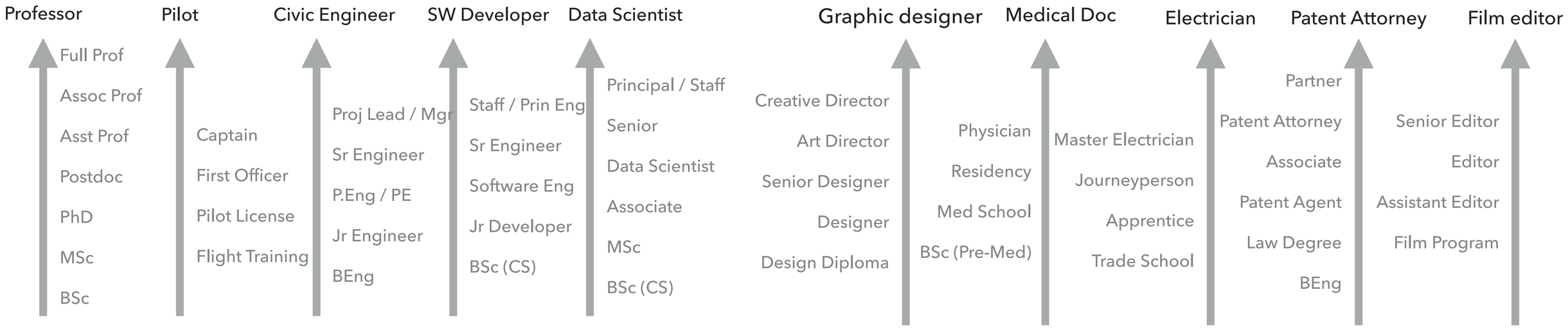
Elena Hoffer



CHOOSING A CAREER PATH

- Choosing what to do after high school can be stressful.
- Don’t feel like you have to have your whole career mapped out already.

The world is changing so fast now.
Existing career paths are being rewritten.
New jobs will exist in 5 or 10 years that you can’t predict now.



PREPARE YOURSELF FOR A FULFILLING CAREER

Follow your curiosity to decide on the *next step*.

Work hard to acquire rare & valuable skills (or combo), reputation, and a network (career capital).

Listen to how that hard work **makes you feel**: joy or agony? energy or drain? against the current or riding the wave?

Focus on work that **motivates** you, to steer you in the right direction.

Talk to people in and outside your field to learn what they do and what they consider valuable.

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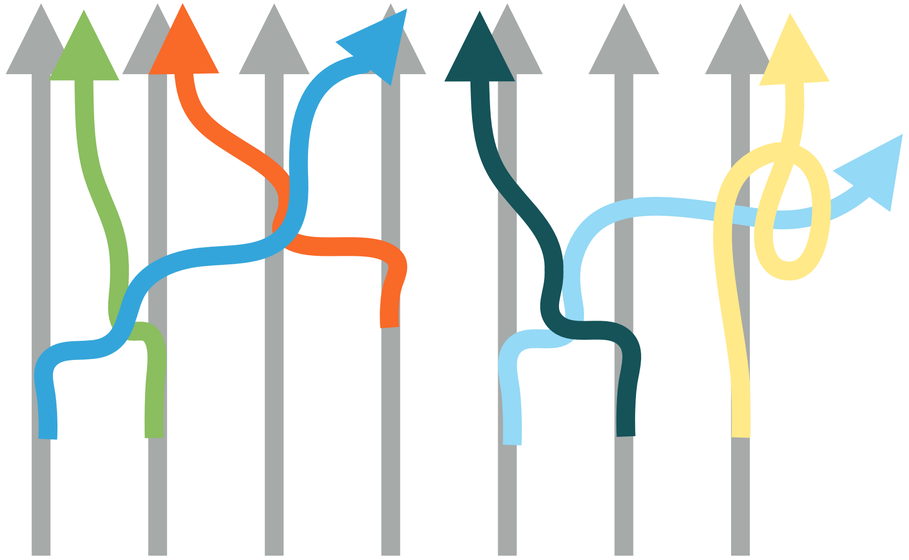
Keep acquiring career capital and exchanging it for increasingly more fulfilling work:
Either for the next step in a linear career or for a change of course.



BONUS SLIDES

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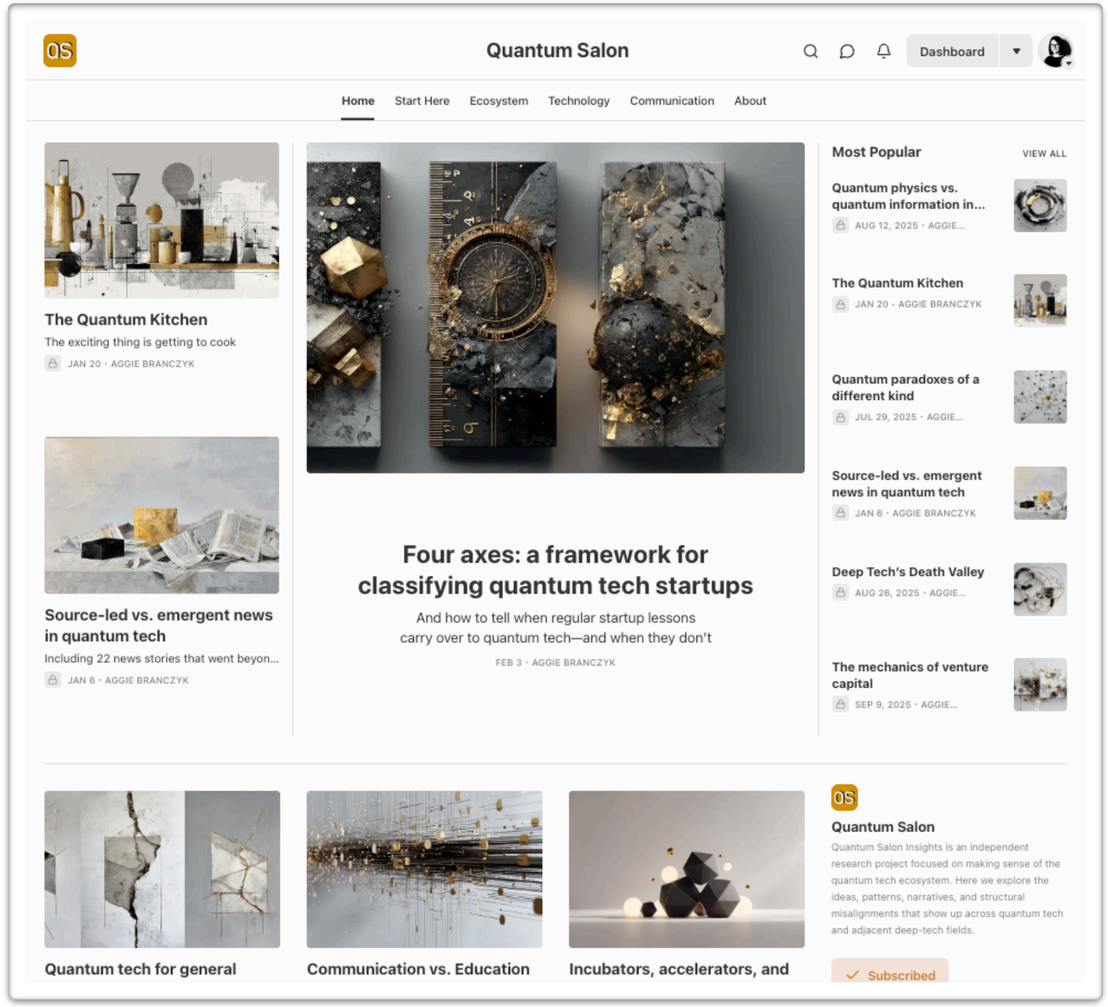

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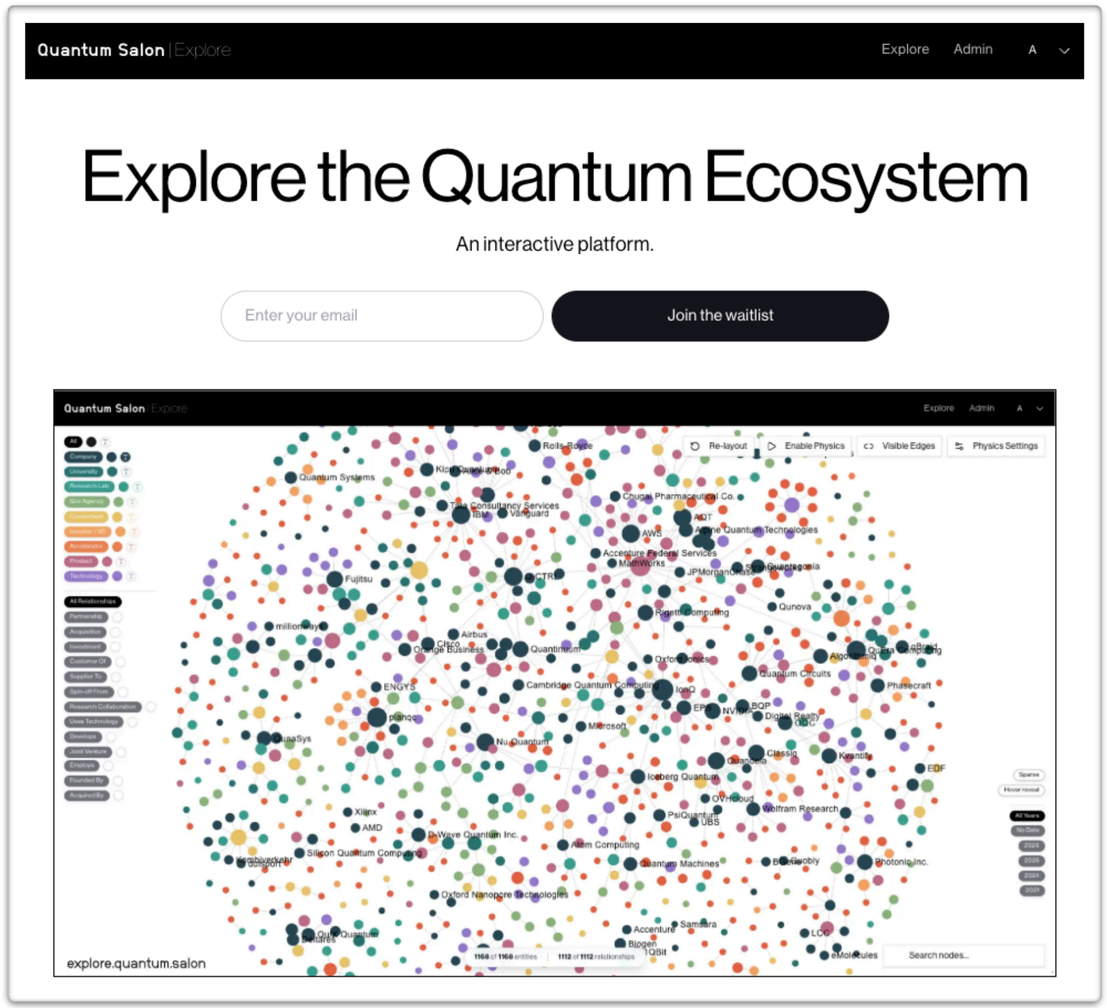

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NONLINEAR CAREERS!

Based on longitudinal labor data from the U.S., Canada, and Europe:

- The average person changes jobs 10–15 times over a lifetime.
- Many change industries at least once.
- A significant minority change occupational fields entirely.

A reasonable high-level estimate for developed economies:

- Mostly linear careers: ~20–30%
- Somewhat nonlinear (role or industry shifts within a broad field): ~40–50%
- Highly nonlinear (major field changes): ~20–30%

Linear paths are more common in:

- Medicine
- Law
- Skilled trades
- Academia (traditional track)
- Certain public sector roles

Nonlinear paths are more common in:

- Technology
- Business / startups
- Creative industries
- Policy / consulting
- Interdisciplinary STEM roles

For high school students today, the probability of having a nonlinear career is likely higher than previous generations due to faster industry change and lower barriers between fields.

Source:ChatGPT