



The IEEE PES
Student Branch Chapter
The University of Manchester



Women in Engineering 2019: Challenges, Support and Opportunities 02/10/2019

Help me help you!

Women in Engineering:

Challenges,
Opportunities and
Paving the Way



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CATAPULT
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Structure



A FEW THINGS ABOUT
ME



OPPORTUNITIES AND
CHALLENGES IN
ACADEMIA



OPPORTUNITIES AND
CHALLENGES IN
INDUSTRY



GENERAL ADVICE



SOME USEFUL LINKS

A few things about me!

- From medical doctor to power engineering..
 - Get the score
 - Family tradition
 - or...
 - You truly wanted it!
- Applying for PhD while working part-time
- Accepted in the CDT in Power Networks of the **University of Manchester** for a PhD in battery storage
 - > Quite a marathon
 - > Taught programme in power systems (October 2014-June 2015)
 - > PhD started in July 2015 - finished February 2019
 - > Graduated July 2019
- Modelling Analyst in **Energy Systems Catapult** (since February 2019)
 - > Our mission? Unleash innovation in the UK
 - > How? Help innovators in the energy sector, advise Ofgem, help DNOs with their transition, advise UK government towards heat/electricity/transport decarbonisation



Opportunities and challenges in academia

Know your why!



If you consider to pursue a PhD:

- Think why you want to do this
- Think of the long-term plan



During the PhD studies:

- Look at the positive side; knowledge you gain, network you build
- Accept that it will be hard and find hedging strategies

If you would go back in time, would you do it again?



Uncertainty - the most certain thing in our lives!


- **Persist!** -> It is not only about cleverness but also about keep going...
- Navigate through uncertainty
 - Frequent changes around -> Become flexible and adaptive to change 😊
- Everyone is scared of something!
 - Tackle it by getting to action

Insecurity

Is it enough?

Someone is always
smarter, more effective

I do not have enough
papers..



Be realistic, everyone has
their own story and
capabilities!

- Compare yourself only with the last version of you
- Work with yourself for yourself
- Find role models

Too much (new) information..

Seek

Guidance from your supervisor/colleagues to narrow it down



Accept

In year 1, you will read/do more and probably shift direction



Develop

Critical ability to understand what is needed and what is not (prioritise, be realistic!)

After graduating, I will be too academic...

The 'ugly' truth -> Yes, a lot of people may believe this..

Think of all the skills you developed and how you can back them up

Organisational skills (responsible for your work, data selection, lab setup)

Communication skills (interaction with colleagues, supervisors)

Time management skills (journal papers, thesis writing etc.)

Presentation and writing skills (conferences, thesis, articles)

Problem solving skills!!

If possible to teach it, do it -> one teaches, two learn!!

The best way to master knowledge and test if you can convey complex principles

Knowledge is to be shared ☺

Loneliness

Left alone to solve the megaproblem!

Embrace your emotions! T-A-L-K!

- Colleagues, supervisors, roommates, partners, friends, family..
 - Other people have similar problems
 - You organise your thoughts
 - Your problem may not be as magnified as you think..
 - You release 'feelings' and it feels good 😊
- It took me **months** to say something more than 'hi-bye' with Mingyu
- Involve in volunteering/attend meetups
- Exercise/meditate



Volunteering 😊

Serious commitment; it is not optional once you have said 'yes'

- How you do anything, is how you do everything!
- UoM is leading in social responsibility

You build (professional) skills apart from software and research

- Leadership
- Fund management
- Communication strategies
- Team leading
- Interaction with industry; understand how things work in corporate companies

It feels good to interact with your colleagues :)

Deliver events with impact -> organised by students for students!

Data/tech meetups

- Plenty of them in Manchester
 - HER+Data MCR, PyLadiesNW, PyDataMCR, Machine Learning Group, Manchester R Group, R Ladies Manchester, and many more!
 - Talks, mentoring schemes, hackathons, trainings, networking, etc.
 - Still remember the first time I attended.. Few ladies in a room..
 - Identify role models
 - Exposed to a wealth of knowledge
 - Get out of the office!



XX+Data MCR Kickoff Meetup - Meet Amazing Data Women
Sept 28th, Bright Building, MSP @ 6:30pm

XX+Data MCR is a community for women in Manchester who work with & love data. Join us for our chapter's 1st meetup on Sept 28th to hear stories from these women about their journey with data and connect with other great women working in this space. More details & RSVP can be found here: <https://www.meetup.com/XX-Data-MCR/>



Geraldine Gallagher,
Head of Business Intelligence,
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Angeliki Loukatou
PhD Researcher,
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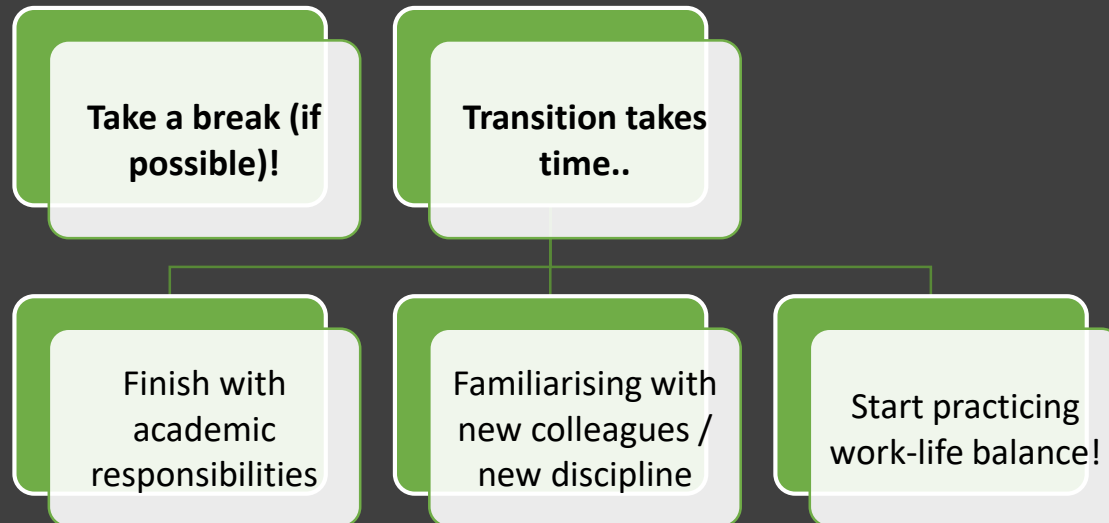


Rachael Ainsworth
Research Associate,
University of Manchester



Karen Church
Senior Manager Product Analytics,
Intercom

Transition to industry!





Differences with academia!



Close interaction- engagement

- It can be proved tricky until you find balance
- You gain a lot, many knowledgeable people around
- So many different backgrounds/levels of experience!



Pace-requirements- approach

- Frequency of changing tasks can be remarkable, not all of them in similar area / may run in parallel
- Defined by others
- Help a client vs finding an innovative approach



You don't have to do it alone

- From academia, you come with the belief that things will go fundamentally wrong -> foresee problems!
- You speak with your colleagues if you have concerns; willingness to help!

Amazing female presence: Arianna, Beckie, Charmalee, Despina, Emma, Eva, Eveline, Gail, Ines, Irene, Marie, Natalie, Nisha, Solmaz, Soma, Susannah, Susie, Vili 😊

Biggest challenge? Stress...



- Is it stressful to be in 'EPO' (Energy Path Operations) team?
 - Yes! My moto is: **'It is scary until it is done...'**
 - Focus on small wins: **'As long as you learn, keep going...'**
 - **Effective** interaction
- Is it stressful to be a **woman in EPO**?
 - Not really..
- **Stress does not go away..**
 - Senior colleagues around me exhale as I do
- Become more **resilient** and get better **coping mechanisms**
 - Different challenges around, parents, kids, getting a divorce, etc.

Advice:

- Think of how you **balance yourself in and out of work**
Practice to reach the point 'OK, I will have a stressful day but when I leave-go home,...'
- **Whole system approach** for yourself:
Software(s) + research (knowledge) + network + personal development

What else?

Student branch coordinator of the IEEE UKRI PES Chapter

- My aspiration was to become Mingyu's boss!
- Gained a lot from the experience
- Aggregated knowledge to be shared!

Attending meetups

- Codebar Birmingham, Birmingham R User Group, Coderbunker
 - 'Discharge' towards python, git, Linux commands
 - 'Charge' towards web design
- Involved in other events as well in Manchester

Yoga ☺

- Stay present - test if I have taken on a lot & proper switch off
- Where your energy goes? Learn how to control it
- What you can't control? Let it go
- Gratitude - a little goes a long way
- Patience - most of the postures take years to be reached!
- Fall in love with progress - fight perfectionism
- Clear thinking - take decisions
- Perfect analogy between yoga and coding!

Key skills?

Learn quickly and effectively (plan!)

Deal with problem solving (adjust!)

Be self-organised and self-driven (persist!)

'Sophisticated' algorithm of my life:

- **A. Short-term**

- Wake up in the morning - go to bed in the night
- In between:
 - learn, get to action and digest new information/numbers
 - treat people well and respect them
 - be modest and honest
- enjoy!

- **B. Long-term**

- Reflect on your **personal progress** and keep searching your **why(s)**
- Treat time carefully; you cannot generate more or less - pay attention to people
- ***If you want me to help you in any way, you first need to help me understand the context, the concern and the problem!***

Useful links / books

- Meetup page:

<https://www.meetup.com/HER-Data-MCR/>

<https://www.eventbrite.com/e/manchester-hacktoberfest-tickets-73737604159>

- IEEE UKRI PES SBC of the UoM

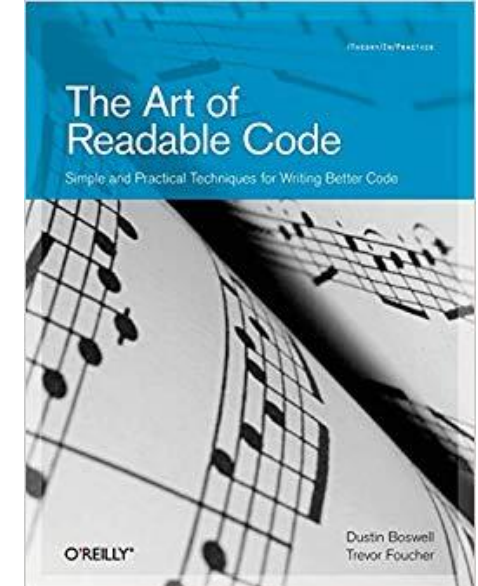
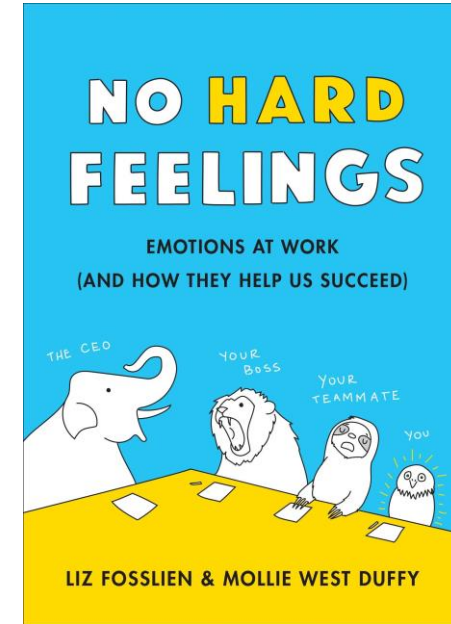
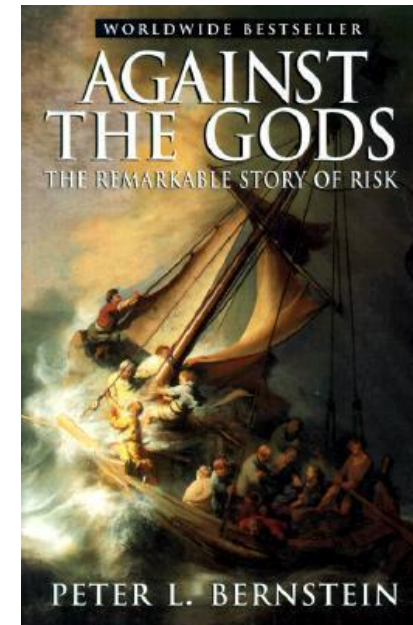
<http://www.ieee-manchester.org.uk/>

- Energy Systems Catapult

<https://es.catapult.org.uk/>

- Smart Works (*'Get the Clothes. Get the Confidence. Get the Job'*)

<https://smartworks.org.uk/get-involved/>



Thank you for your attention!
Any questions?

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at first
glance
it may
appear
too hard.
look
again.
always
look
again.



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