Building your professional network

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MATH4NL
BRIDGING MATHEMATICS AND SOCIETY

Department of Mathematics and Computer Science

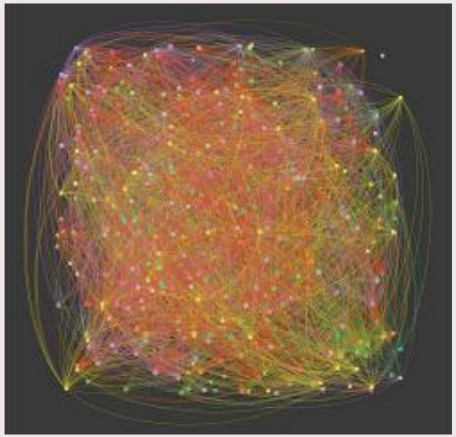
TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

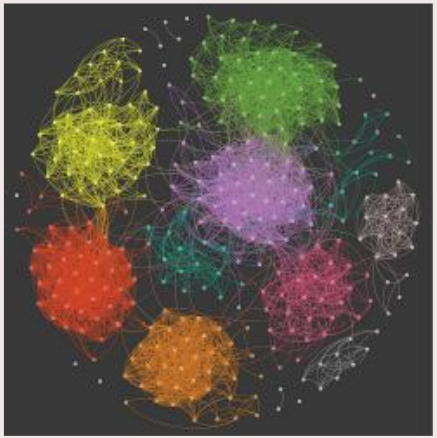
Networks are a great topic in mathematics

In The Netherlands, we have a so-called ''Gravitation project'' on Networks – 10 years, 20 Meuro

''Randomness is everywhere'' is one of their slogans

More info:
https://www.thenetworkcenter.nl/





Also shown at the traveling exhibition
''Imaginary – beauty and power of mathematics''
www.imaginarymaths.nl

Today we will not consider networks as a scientific subject of study, but concentrate on personal networks

The importance of networking in science

- Many scientists enjoy working alone—toiling away to form hypotheses, collect data, and conduct experiments.
- The notion of “networking”—which to many means sharing awkward, superficial conversations with a room full of strangers—can be highly off-putting and stressful.
- Although it may feel uncomfortable and seem difficult to justify spending time making small talk, it’s important that scientists make it a priority to do so in order to **build meaningful connections** with those around them.
- Your network can open many doors that no amount of good bench work could.

Networking is a critical component of career success!

Three reasons scientists should learn to network effectively

1. Science is collaborative
2. Soft skills are crucial to success
3. Networks open doors and aid career transitions

1. Science is collaborative

Nope, not even you!

- As much as many scientists would like to be able to do everything on their own, no one can accomplish every scientific achievement on their own.
- In fact, these days, very few scientific advances are made in isolation. **Collaboration is critical** to innovation and good science; particularly as new technologies require increased cross-functional work between researchers in different disciplines.

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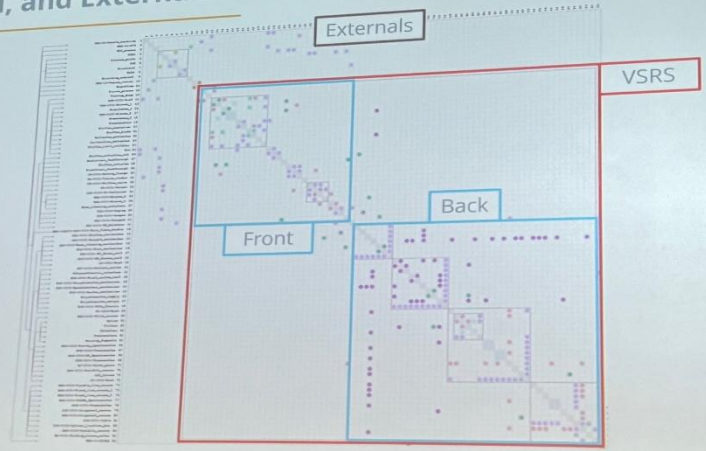
VSRS

Back

Design Structure Matrix shows interfaces between Back-, and Front-End, and Externals



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- Additionally, **outside perspectives** can be highly valuable when you inevitably hit a project roadblock at some point in your career. New ideas and hypotheses are frequently inspired by conversations among scientists.

2. Soft skills are crucial to success

- Numerous studies show that **interpersonal skills** matter more than technical skills no matter the profession.
- In today's world, **soft skills are crucial** for career success. Employers no longer want only someone who is an expert at the lab bench; rather, they need a well-rounded individual that can articulate and present their findings and ideas in a compelling manner.
- **Networking** is just one way to practice and hone your communication skills while establishing key relationships.
- Developing these meaningful relationships will require a concerted effort, but it doesn't have to be a stressful endeavor. **Networking is simply another skill that takes practice and repetition to master, and once you do, the benefits will be plentiful.**

3. Networks open doors and aid career transitions

- Networking is a proven and powerful tool for career growth. Studies show that 85 percent of all jobs are filled as a result of networking.
- For those working in academia—a very tight-knit group—establishing **important connections** early in your career can set you up for later career success. Knowing the right people who can direct you to open positions and connect you with individuals looking to hire can be the key to landing your dream role.
- Furthermore, if you're looking to find a job outside of your current sphere, whether industry or academia, these connections can help you transition into the other line of work and offer valuable advice to succeed on the other side of the bench.

Effective networking tips for scientists

Tip 1: Adjust your perspective

- Networking can sound intimidating, but the truth is you already have a network. A network is simply the people you know, and then the contacts of those people.
- For many scientists, it can help to look at networking as less shameless self-promotion and more as an **opportunity to expand your knowledge base** and form **mutually beneficial connections with like-minded researchers** that may advance your professional objectives.
- **Try viewing networking opportunities as simply a chance to talk with smart, talented, like-minded people in your line of work.**

Tip 2: Start small

- Start small by tapping into your most accessible connections first. Ask a co-worker to coffee, talk shop over lunch, or attend after-work events.
- These type of **low-risk networking activities** give you a chance to strengthen your interpersonal communication skills in a slightly more comfortable setting.
- Another painless networking approach is to **reach out online** to other professionals in your industry.
  - LinkedIn and email can be an efficient way to establish and maintain an extended network of people who can help you find a job and advance your career, without initially having to meet face-to-face.
- It's important, however, to provide context in your connection requests and personal messages—don't rely on LinkedIn's default message, which shows you aren't willing to take the time to **establish a true connection**.

Tip 3: Join professional associations and social media groups

- Join professional associations and science-specific social networks, which may provide access to libraries of research articles, as well as useful tools and ideas.
- When networking via social media, keep your profiles accurate, up-to-date, and complete. By including a professional photo, personal summary, and an overview of your skills, your connections will get a better sense of your personality, abilities, and goals, making your connections more meaningful.
- ‘’Like’’ messages of colleagues

Society for Industrial and Applied Mathematics

+ SIAM Activity Groups!

Being a long-time member increases your chances to become a SIAM fellow or board member

TU/e

Tip 4: Attend industry events, conferences, and poster presentations

- This most likely will require you to step out of your comfort zone. For many, these types of events involving close interaction can be daunting, but the long-term benefits of attending are huge.
- Start by choosing events where networking is just one portion of the event, rather than the explicit purpose.

Tip 4: Attend industry events, conferences, and poster presentations

- Conferences provide a great opportunity to start building your scientific network, which can yield benefits in the form of collaborations, referrals, and access to research or funding.
- Here are some additional tips to make the most out of these events:
  a. Have a plan
  b. Do your homework
  c. Have your elevator pitch ready
  d. Return the favor
  e. Follow up and through

Tip 5: Keep in touch with your network

- As you continue to build your network, it's important to maintain it by **communicating** with your connections **regularly**.
  - It can be as simple as a LinkedIn note or cordial email, thanking them for an introduction they made or for advice they offered that led to a positive outcome.
  - Or, if you see one of your colleagues mentioned in the news for new research or significant achievement, take advantage of the opportunity to reach out, acknowledge their success, and say "congratulations."
- You can also comment on or tag appropriate individuals in articles your industry connections are sharing, letting them know you're thinking of them while **positioning yourself as a thought leader**.
  - Engaging with helpful research or industry content over time will help your connections see you as a key member of the industry and someone worth knowing.

Why networking matters especially in mathematics

- Many mathematical opportunities (industry problems, internships, funding) are not visible unless someone tells you.
- Mathematics is used across sectors—but companies often do not know where to find mathematicians.
- Most impactful mathematics comes from cross-disciplinary interactions (AI, simulation, healthcare, finance, logistics).
- Networks are how mathematicians move from “unknown” to “trusted collaborator.”

Typical challenges mathematicians face when networking

- Mathematicians often feel they “don’t have anything interesting to say.” (Not true!)
- Difficulty explaining specialised research in applied terms.
- Fear of being seen as self-promoting.
- Limited intuition for business or societal needs.
- Underestimating the value of mathematical thinking (problem structuring, abstraction, optimisation).

Common networking mistakes (and how to avoid them)

- Talking only about your own research.
- Diving into technical details too quickly.
- Forgetting to follow up.
- Asking for “a job” instead of asking for “advice”.
- Approaching someone only when you need something.

Networking for shy people (or introverts)

- Prepare 3 questions in advance (“What are you working on these days?” works everywhere).
- Approach someone standing alone — they’ll be grateful.
- Look for small groups of 2–3, not large circles.
- Use observation skills (mathematicians excel at this!) to join conversations naturally.
- Remember: listening is 90% of networking.

Short personal experiences

Personal experiences

- Always went to many conferences, meeting people, approaching speakers after their talks, asking for papers, writing many emails
- Career influenced by networking:
  - Met my later boss at Philips during a conference in Dublin (1979), and got a job offer immediately leading to 30 years at Philips
  - Job as part time professor came out of intense contacts with TU/e for several years
  - Job as executive director of Dutch Platform for Mathematics came out of a single encounter with a colleague from Utrecht to whom I mentioned I was leaving Philips
  - ECMI presidency came out of contact with Wuppertal colleague
  - Presidencies of EU-MATHS-IN and ICIAM came out of contacts with colleagues
- Worked on being visible by becoming member of several organisations, and showing the willingness to assume active involvement
- Very active on LinkedIn
- Seeing opportunities very quickly when meeting other people

Conclusion

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- Hope I was able to give you a flavour of how to do networking, and how beneficial it can be for your career
- Networking requires a personal touch; it will be different for every individual. Find a way of networking that fits you best.
- The hints/tips given are just guidelines on how to think about building a professional network
- **Building a professional network is essential for your career**

Your national network is already here

- Through Math4NL, you automatically gain access to:
  - Ambassadors at every Dutch university (Math4NL Ambassadeurs)
  - Industrial, governmental, and societal partners
  - SWI and Triage sessions where organisations present real-world problems (‘’Math4NL Verkenningssessies’’)
  - Long-term Math4NL working groups

Networking is not something you do alone. Math4NL supports you!

Networking is not something you do before you need something. It is something you build long before that moment arrives.

Your future collaborators, funders, employers, and friends… they might all be in this room today.