

ADVICE TO MID-CAREER RESEARCHERS

On nurturing doubt and intuition

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When I was 5 growing up in Algiers, my parents took me to the music conservatory and asked me which instrument I wanted to learn to play. I did not know the answer and I said I wanted to sign up for Ballet dancing. Since then, dancing has been central to my life. When they asked me what I wanted to do after high school, I did not know the answer and I chose computer science because I heard my Math teacher say it was the future. When my husband asked me to marry him, I literally answered “I am hungry, let’s get dinner”. Since then, dinner has been a special moment for us. I was in my mid-career transition when I moved from NYC to Barcelona to Doha and then to Grenoble. I love not knowing the answer and yet making great choices. My mid-career advice is: nurture doubt, develop intuition, and learn to make great choices.

The biggest change you will experience when entering your mid-career phase is a widening of your choices. That applies to your collaborators, your academic responsibilities, the conferences you will attend, the projects you will get involved in as a leader or as a partner, the people you want to mentor, the life choices you get to make, the grants you will apply for, the topics you want to work on, the services you get to complete for your research community, and the students and collaborators you will interact with on a daily basis. Choice is a blessing and a responsibility.

On choice and responsibility

I don’t know for you but when I turned 40, about a decade ago, I was suddenly faced with a diverse set of choices: whether to go to Academia or Industry, the country and even the continent to live in and work on, my life partner, and many other important decisions, such as whether I should continue with classical Ballet dancing or switch to softer modern Jazz. I feel like mid-career transitions are just like that. At this stage in your career, you have the luxury of choice. With that, comes responsibility. All of a sudden, you become a role model. That shift from being a junior-on-the way-to-senior is so palpable you cannot ignore it. Expect to be the senior in the room and when you are, ask yourself

what piece of advice you can provide to others. Are you the role model you want to be? What is the image you are projecting? Are you being nice to juniors? How can you help them?

Surround yourself with seniors

A senior-to-be often attracts juniors in search of role models. Being a role model for those juniors is a major endeavor you should pursue. At the same time, you need to find energy and inspiration in others. It helps to be the junior in the room for that. Actively search out mentors to learn from, nurture your relationships and enjoy learning from them. I find that as I entered my mid-career phase, my discussions with seniors became more open and more in touch with my feelings. I was feeling less concerned about what they could think about me and I could more easily express my opinions. My interactions with seniors became more fruitful from then on. Also, remember there will always be smarter people around you. Stay humble, listen to others, and do not forget you can always learn from them, be they seniors, mid-careers, or juniors.

Don't be afraid to play senior

Playing senior is not easy for a soon-to-become-senior. Seniors know that and they also know that if you’re trying hard and if you believe in what you’re doing, their role is to help. People who are more senior than you can read you. They have been there and they can see bits of themselves in you. So, if you want to play senior, don’t shy away from asking them for advice.

All of a sudden, you are the center of attention

In my experience, the mid-career phase is when you get approached by most people: juniors who need support, seniors who need your expertise, and value your energy, and other seniors-to-be who know you will complement their expertise, colleagues who need Associate Editors and Editors in Chief, those who seek keynote speakers, those looking for support letters, those searching members of their hiring committee, those looking for

reviewers of PhD theses, those seeking to nominate not-so-junior and not-senior researchers for awards. That, added to the fact that you are expected to take on new responsibilities such as project leadership and coordination, will require you to rethink time management. Simple quantification measures could be applied. Quantify the effort you make for each task and aim for balance. Think about your more junior colleagues who are seldomly invited to be conference officers and suggest they get invited instead of you.

Remain motivated

Depending on where you live you may become tenured as soon as you are hired (it is the case in Academia in France), never (it's the case in Academia in Chile), or just now. If you were in France or in Chile you'd have asked yourself the motivation question already. In other places where you just got tenure, you need to ask yourself that question because and assuming it was until now, getting tenure is not your motivation anymore. What motivates humans? Peer recognition, monetary compensation, altruism, challenges, pride. Ask yourself what motivates you and how you can keep going. Freedom to explore anything is something that has always motivated [me](#).

Remember where you came from and pay attention at your surroundings

It is helpful to remember where you came from and what your progression has been and what it took to get there. Do you want to continue with the same levers? Do you want to make the same sacrifices? And while you're at it, remember those who lifted you, those you are lifting, and those who help you do your work. Undeniably, some seniors will be jealous because you are still young and vibrant and some juniors may try to ride your wave with little effort on their part. Learn to cut off toxic relationships and move on. I do not have a recipe for that and I fell into some hurtful traps. I would have paid more attention if I had known.

It is okay to fail, try understanding why

You just succeeded in achieving a major step in your professional life. Now, you can afford to fail from time to time. Failure is a gift and an opportunity to learn from. Remember we are competing with very smart and

hardworking folks, and remember that real life is not always fair. Talk to others, explain your failures, and ask them their opinion on why some project, research idea, paper, application of yours did not make it. We do not talk enough about our failures and we can learn so much from them. One of my favorite events is the Failed Aspirations in Database Systems (FADS@VLDB) workshop. I hope that as a community we could hold more events like those. I have been working with people in other disciplines, medical doctors, economists, law professors, and education scientists. It is only after I talked to some of them in more relaxed social settings, over lunch or dinner, that I understood why some of our attempts failed: why did they not promptly share data with me after promising to do so? Why could I not get them to contribute a paragraph or two when I needed that? Why is our student feeling frustrated? Why are we not able to converge toward the same goal? More freedom undeniably leads to more failures. All you need is to learn to deal with your failures.

Understand what success means to you

Now that you are a junior senior, you need to think about what you are seeking next. If you made it this far it means your community recognized you for some work and can associate your name to some research topics you helped further. You can now work on your right to be “forgotten” for that and remembered 5, 10 years from now, for something else. That other thing is a combination of research and service. It needs to be a new research topic because you want to keep innovating. I feel very proud of making that shift and bringing social computing to the database community and I thank TCDE and VLDB for providing me awards for that. It also needs to be about service because your community would benefit from what you can bring (thank you Tamer for running the advice to mid-careers). I feel very proud of having succeeded to establish the diversity equity and inclusion initiative in the database community and I thank SIGMOD for recognizing my efforts with an award.

Your network

As a junior senior, you have probably figured that collaborating with others is essential in research. Let me argue why it matters even more now. I was told very early on in my career that once you find a collaborator

who matches your interests, make sure to nurture that collaboration. I have been told to learn to see the best side in others. I have been lucky to meet amazing colleagues. I also believe the harder I work the luckier I get. All that forms a magic recipe for fruitful collaborations. I firmly believe that being kind to others and being generous with one's time and effort pays off. So, my strongest advice is to strive to be kind and generous because the more senior you are, which is undeniably the path you are set to follow, the scarier you become to the younger generation. So, be both nice and firm.

Understand your recovery activities and remember to pause and smell the flowers

How do you recover from effort and refuel for the next steps? Hobbies, exercise, family, friends, travels, doing nothing, drinking tea, gardening, cooking for hours? You may want to think about your current recovery activities and if you want to take on new ones. Just like starting new research topics, starting new recovery activities is a renewal.

Prepare to face slower times

All researchers experience a slowdown some time in their career. While that may bring some frustration, think about how to exploit that moment. Time to consider different publication venues? Time to attend conferences from other communities? Time to venture into new topics? Time to focus more on listening to your students and mentees?

Prepare your future by being attuned to your time

Every research community has its preferences and nurtures them. This will continue to be the case and it will help you ride the wave of hot research. As a mid-career researcher you can start asking yourself what will make your research community still relevant in 5, 10 years and what will make it societally relevant. I find this exercise difficult and rewarding. I started working on ranking algorithms that accounted for relevance and diversity because I wondered how we could make Boolean database queries more relevant to people. I started working on algorithmic fairness on labor platforms because I asked myself the question of how people were treated on crowdsourcing platforms. I

learned how to deploy principled user studies when I paid attention to closing the loop between experiments and algorithm design. I started working on Education because I wondered if people learned anything by collaborating with others in solving tasks. All these questions led me to expanding my horizons to other research communities in Computer Science, SIGIR, TWC, and ICWSM, but also other sciences, Law, Economics, Education, and Medicine.

Today, one may ask how their work may contribute to inequality reduction, climate protection, and quality education. While making that effort you need to confront and reject the feeling that you have to be doing something big to be doing anything at all. What are the smallest steps you could take today, and with whom, to make a difference. How many other jobs provide one the opportunity to ask themselves such a question? You have the best job in the world, a perfect balance of doubt, intuition, and continuous learning and intellectual effort. Remember that.

A few months ago, I was approached by colleagues from our AI institute in Grenoble who work on creative thinking and creative design. They suggested we put together a project on how data and generative AI could impact human creativity. Engaging myself in such a project appeared to me as the paroxysm of doubt. At the same time, intuitively, it felt like a natural next step in my research: after treating humans as mere receivers of query results, data producers in online platforms, workers on crowdsourcing and labor marketplaces, learners on an online education platform, here I am asking myself how to help people be more creative. If I had allowed myself to think about this rationally, I would not have accepted. For the first time I am going to start my research by running qualitative and quantitative experiments with human subjects to gather their interactions with Generative AI as a companion or as a tool, before seeking to solve any technical question. I feel very excited about that despite not knowing where I am heading and not even knowing if it is a great choice. One thing I know this time is that the journey will be rewarding and that is something we have the luxury to afford in our job.