

## CCBIO Opinion

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# HOW TO EFFICIENTLY ORGANIZE TRANSLATIONAL CANCER RESEARCH?

Today, my lab of Gynecologic Oncology at the Catholic University Leuven hosts 2 senior researchers, 2 postdoctoral researchers with a Marie-Curie fellowship, 12 PhD students, 2 lab techs and 3 master students. Though this lab is a modest player in the field when regarded from an international perspective, it may be inspiring to look at its evolution. Indeed, its constitution strongly contrasts with that in 2002, when I was the first and only PhD student in this field.

What could have been key in this evolution?

**Get inspired.** In 2004, when I met a patient that was diagnosed with cervical cancer during pregnancy, there appeared to be a complete lack of prospective studies. Moreover, this topic was not in the portfolio of any research group. Fellow clinicians and researchers considered cervical cancer too uncommon to invest time and resources in. For me, it was a unique opportunity to make a difference, not only for the patients but also to fill the research gap. There was little to lose. Furthermore, holding a degree

in 'Obstetrics and Gynecology' with a sub-specialization in 'Gynecologic Oncology', I found myself uniquely positioned to link both 'cancer' and 'pregnancy' themes. Our first paper on the safety of applying chemotherapy during pregnancy<sup>1</sup>, changed the paradigm and proved that chemotherapy can be given safely during pregnancy. Likewise, when founding Trace - a platform of patient-derived preclinical models that I created in 2013 to study cancer biology and resistance to treatment - I found my inspiration at the patients' bedside. Thus, close interaction between clinicians and scientists is pivotal to identify clinical needs and link these to research options.

**Focus.** When resources are limited, straddling research topics are to be avoided. It is then advised to focus on achieving preliminary results in order to convince funders, e.g. grant organizations, to award the necessary financial means allowing you to further enroll the research line. Yet, the challenge is to find the right balance between keeping this focus and adopting an open attitude towards

new and unannounced opportunities harboring promising research avenues. Furthermore, patience is the partner of focus. For instance, the time gap between the first steps in our search for metabolomic changes contributing to platinum resistance in ovarian cancer and the first report<sup>2</sup>, surpassed 7 years.

**People management.** A strong team relies on the presence of experts (to be) in your research domain and recruiting these profiles is a first step. Ideally, these experts are (to become) better than yourself. Their excellence will best thrive when they are given sufficient freedom. For us, it works best when, together with the team members, we outline the main research paths. From this point on, their expertise and experience will guide them towards the next steps. Trust and confidence will (mostly) be rewarded with team members who are flourishing.

**Teamwork.** Conducting research is a team effort. Attention to a good team spirit is a daily task and starts with a 'good morning', also to the janitor. A personal interest in your team members adds to their self-confidence, paving the

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way to partnership rather than being in a subordinate role. Prevention of absenteeism and burn-out is a positive side effect of this approach, yet it is not a goal on its own. Likewise, teambuilding efforts will only generate its beneficial effect if they are rooted in a safe environment.

As can be appreciated from the above, the efficient organization of a translational research lab is a work in progress. Also, luck has its role and there are no guarantees for success. Moreover, no perfect situation exists, since diverse issues, like events happening in the private sphere, underperformance of team members,

missing necessary financial grants, and administrative issues can interfere with the perfect road map. In sum, striving towards the best together with your team will generate a fertile soil where ideas can sprout and be converted into projects. And, in case the research output would be less than hoped for, being able to work in a positive, supportive and warm environment is already a gift to care for.

Good luck.

## References

1. Amant et al., Pediatric Outcome after Maternal Cancer Diagnosed during Pregnancy. *N Engl J Med* 2015; 373:1824-1834
2. Van Nyen et al., Serine metabolism remodeling after platinum-based chemotherapy identifies vulnerabilities in a subgroup of resistant ovarian cancers. *Nat Commun* 2022;13(1):4578. doi: 10.1038/s41467-022-32272-6.