Report on the visit to the NSF, in Arlington, VA

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Agency visited	The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, http://www.nsf.gov/
Persons visited	— Anindya Banerjee, Program Director, abanerje@nsf.gov
	— Sol Greenspan, Program Director, sgreensp@nsf.gov

The main goal was to discuss the early-carrer-oriented program sollicitiation NSF 16-565 and, more broadly, applications to NSF program sollicitions.

NSF 16-565

- There is no webinar nor help session planned this year, but last year webinar's material is available at http://www.nsf.gov/events/event_summ.jsp?cntn_id=135599.

- This Research Initiation Initiative (CRII) is to be conceived as a stepping stone. Hence, how it would help me in my young carrer is a critical point to address, and I should clearly develop what I want my carrer to look like.

- The broader impact of my proposal should be inspired by the national priorities, as expressed for instance by The White House: how the project could help to develop better teaching, promote underrepresented groups to study similar aspects of my research, help to reduce the climate impact, etc.

- Training is needed. The students do not have to study exactly my area of expertise, but it could be related topics, or preliminary studies, as basics Mathematics, or functionnal pure programming.

- To focus on the group dynamic in my department is essential: not only to incist on the fact that I'll have students, but also that I'll accompany them on the long-term, encouraging them to go through ungraduate studies, and build a group with them.

- International network is the icing, but it only *supports* an already-existing good project.

Applying in general

- Everything should be planned ahead: when to apply, when to hire, how the money will be spent, etc.

- The best way to stay in touch with the future calls is to suscribe to NSF's newsletters.

- A good way to learn to write good proposals is to serve on a panel: if I'm not submitting a NSF:SMALL proposal, I should keep an eye on the NSF core sollicitation and apply in September to review proposals.

- The list of funded proposals is public: reading their abstract and asking colleagues to share their successful applications could help me. Since the novelty is critical, it also helps to make sure that similar proposals have not been recently funded.

- The NSF's answer to a grant proposal can be

Highly Competitive (HC)	The NSF is strongly advised to fund this proposal, except if there is a reason not too (the project has already been funded by a different agency, typically).
Competitive (C)	The project is fundable, and as much projects of that kind as possible should be funded.
Low Competivite (LC)	There are reasons not to fund this proposal as it is now, but advices to improve and resubmit are given.
Non-Competitve (NC)	The proposed research is dangerous for the society, or the PI is not qualified, or the proposal is vague, lacks confidence that it should be funded.

- Learning to calibrate a good proposal is not easy: it should explain what work needs to be done, and why, in details, but without turning into a scientifc paper.

- The proposal is read in a closed room, so it should be as self-contained as possible and not have a "trust me" attitude. Otherwise, the report to the first proposal could be only a series of questions.

Differences with Europe   In the U.S., the idea must be very compelling, and the PI must defend them. Having done preliminary reasearch is good, it should highlight how the project is reasonnable, and why I need to do more research on it. Focusing on why the subject is important should be done with pertinent, non-trivial examples showing the limitation of current knowledge or technology, rather than with complex details. Arguing why the proposed approach is better, and what are the limitation of other approaches, is essential.

Training is critical, as well as scientific broader impact: how could this research be re-used in a different context, what could be the benefit for other contexts, communities? Is there any general principle that would come out of it?

Europe might have a "trust me" attitude: in the US, the track record is one piece of evidence that the project could succeed, but is not sufficient.

Future Plans   My first conception of NSF 16-565 proposal was probably underestimating the importance of education and training. Since its full proposal deadline is the 10th of August, I need to consult with Patricia Johann to decide whenever I try to write such a proposal in two months, or if I focus on being co-PI of a SMALL Core Program proposal with her.