

Research Seminar
Interview an Expert Researcher Exercise
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The following question/responses are the results from my interview with Dr. Hugh Maynard regarding necessary tools and experiences for the novice researcher.

1. How do you start a research project?
 - First, I ask myself a couple questions: “What do I know?” and “What do I need to know?” These help me develop a plan of study for building the necessary background knowledge.
 - Also, the area in which you will be conducting your research also determines how you begin. As a mathematically inclined person, I would start different from a researcher who is doing work in systems.
2. What specific tools do you use (e.g., library resources, computer software, forms of measurement, statistics)?
 - As a computer scientist, I use many different resources and tools than researchers in most other fields. For the latter, I often look at not only publications, but source code to projects that attempt to solve a problem or are plagued with one. Being that security is one of my fields of expertise, I read up on Internet resources of exploits and such. And of course, I utilize compilers and debuggers religiously to develop concrete artifacts to verify or demonstrate my findings.
3. How did you gain your expertise with the various tools you use?
 - Time. Spend a lot of time immersed in the tools, tinkering and reading manuals.
4. What are important experiences you suggest for a novice researcher?
 - Again, spend a lot of time immersed in the field and playing with the tools you may use.
5. If I wanted to learn how to become a competent researcher, what specific tools would you suggest I work with?
 - This is maybe not a tool in the traditional sense, but managerial skills is a must! Besides the research, you need to know how and when to present, how to procure funding, how to interact with your particular research community and support other students helping you or doing related work. Its all a balancing act.
6. What is the main benefit of research to the researcher?
 - Pleasure. You should, at the very least, like what you're researching.
7. Should lack of experience in a particular research area be discouraging?
 - No. It just means that you need to get a little exposure for a broad survey of areas that may be related to your research. In that way, you will know how to interface with these various areas that are substrates of your topic.