

Summary of the Panel Discussion:
Academia versus Research Labs: Tales from the Front Lines

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The CISS panel and discussion started with a brief presentation by Prof. Andrea Goldsmith of Stanford University with an update on recent IT Student Committee activities. Prof. Goldsmith pointed out that the IT Student Committee is still looking for volunteers, ways to make the mailing list more active, suggestions on website content and a panel topic for the upcoming ISIT. Four panelists then shared their wisdom and experience from varied careers in academia and industry. Two panelists from academia were Prof. Vincent Poor from Princeton University and Prof. Christopher Rose from Rutgers University. Representing the industry side were Dr. Emina Soljanin, from Bell Labs and Dr. Stefano Galli, from Telcordia.

Each of the panelists contributed to painting a picture of the tradeoffs between academic and industry jobs. Several rewards of an academic career were pointed out: more freedom in choosing a research path, working with students, watching them build research skills and become successful researchers, and a flat hierarchy with no boss. For industry, rewards included: seeing one's ideas being implemented and turned into products, collaborating with colleagues, and financial benefits.

And then, there are the unavoidable drawbacks. Prof. Poor made an interesting remark that, contrary to expectation, academia may not be the best environment for a person to solely focus on research. Academia has a lot of distractions: preparing and teaching new courses, writing grant proposals, helping run the university, and supervising students. We think of industry as offering less freedom in choosing a research problem since a researcher is hired to work on specific projects and this is true. However, even in academia, a researcher can rarely choose a "pie in the sky" – some 20% of the research time maybe, according to some of the panelists. The reason: one has to work on what is likely to be funded. In that sense, money drives research not only in industry but also in academia. Increasingly, Prof. Poor points out, federal funding targets very specific projects which makes it more challenging for a university professor to have real research freedom. The focus of industry is more on short term goals than ever before, Dr. Galli remarks. With appreciation, the panelists talked about the old Bell Labs where one could freely choose a research topic in which ever corner of the communications field he or she wanted. Still, one has to work with what one has. This is not necessarily a bad thing because it can bring out creativity, as Dr. Galli convinces us with an anecdote of how NASA spent several millions of dollars to engineer a pen that can write in space. The Russian solution - use a pencil!

Both Prof. Goldsmith and Prof. Poor pointed out the benefits of collaboration between industry and academia, which can be very fruitful and sometimes add more reality to academic research.

Throughout the panel, the panelists offered invaluable insights about the careers that lie ahead for students. It is apparent that the two paths are significantly different and that the gap may be getting even bigger with industry more short term oriented and less interested in fundamental problems. Industry is these days interested in “more breath and less depth” notices Dr. Galli. But once we are aware of what each job brings, of their rewards and drawbacks, one message is clear – we shouldn’t worry about that, we cannot predict what the hot research field will be by the time we graduate - we cannot “engineer our careers”. “Whether in academia or not, don’t go for incremental research”, Prof. Rose says. An encouraging and inspiring message that all panelist had, comes from Prof. Goldsmith: “Do what you love, then you’ll be creative, do good work and will have a lot of opportunities open to you”. And we finish with Dr. Soljanin’s words: “Go where the smart people are and have fun”.