

## **Research Advising Philosophy Statement**

### **Tomás Palacios**

The Palacios group combines extreme electronic materials such as graphene and GaN, with nanotechnology, and new device and system-level concepts to start the next revolution in semiconductor devices and their system-level applications. The group has a very horizontal structure, with typically 12 to 17 SM and PhD students, 1 to 3 postdocs and 3 or 4 undergraduate students at any given time. Although junior students typically spend significant time with more senior members of the group, each student has his or her own independent research project from the beginning, and meets with me directly on a weekly basis

I like to give the students as much flexibility as possible to pursue their own interests. It is, therefore, quite common for students to work on multiple projects in parallel. The students also have flexibility to choose their own work schedule, as long as they overlap enough with other students to ensure successful brainstorming and collaborations. At the same time, summer internships in industry or other labs are an important component of the PhD journey. That is why I encourage my students to spend time away from MIT during the summer, once that their PhD projects are on good track and producing results.

For me, the key reason for pursuing a PhD is to learn how to become the world expert on a given topic. To become such an expert has a number of beneficial “side effects”, the most important one being that, once that you know what it takes to be the world expert on your thesis topic, you can go to the next topic, apply the necessary time and effort, and be successful. It typically takes 4 to 6 years after joining our group with a BSc to reach that level. Once you are there, it is time to graduate and move on to the next stage in your career. Mentoring and watching students develop during this time is by far one of the highlights of my job. They are amazing and it is a lot of fun to work with them and help them grow into some of the world’s best scientists, engineers and entrepreneurs. I am very proud of what they do, and it is a pleasure to help them in any way I can to make sure they achieve their full potential.

If you are interested in joining the team and pushing electronics and technology to new limits, please do not hesitate to contact me. Thank you!

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