

FIAP Summer 2012 Newsletter

American Physical Society Forum on Industrial & Applied Physics

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Please take a moment to answer a brief survey at <http://www.surveymonkey.com/s/FIAP>

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Opinions expressed represent the views of the individual authors and not the American Physical Society or author's employers.

Letter from the editor: Less is More (fiap_newsletter@aps.org)

The most valuable part of attending the 2012 March Meeting occurred when a nearly-graduated Harvard PhD candidate eagerly sought me out at the CWP/FIAP networking lunch to learn about working for my employer. Despite taking 14 pages of notes across various sessions and finding a few new perspectives for some of my projects, this random introduction to a smart PhD candidate was infinitely more valuable. Notes can be compiled from articles; talks can be viewed online. An informal connection with one of the thousands of students attending the March meeting can only be achieved by attending the meeting. And yet a mind-numbing array of sessions fills every time slot and decreases the potential attendees at each. I had to miss a few talks of interest to attend this networking lunch, implying that some people likely missed the networking lunch to attend talks. The APS needs to raise the ratio of networking opportunities to the number of sessions to increase the breadth of contacts attendees can meet.

Over the last two decades I have attended the March Meeting sporadically both as a student and as an industrial physicist. I barely remember the talks I attended or gave. The influence the meeting had on me came from dinner with the Raman mafia,¹ from one-on-ones with scientists from other universities, from job interviews, and from informal discussions with industrial scientists. While I appreciated the speaking experience offered by the meeting, good graduate programs offer numerous opportunities for public speaking. As a student, conferences offered a rare chance to learn what physicists outside the specialties of their group and department consider important. As an industrial physicist, conferences represent one of the few opportunities to get perspectives from outside the bubble encircling my job. The March Meeting is unique in that 45% of the attendees are students (see figure). If we focus the meeting's mission on getting people talking to interested strangers then we increase the chance for industrial physicists to leave the meeting with new ideas for their work and for students to learn more about industry.

The most successful way I have seen this executed is to eliminate some oral sessions and raise the profile of our poster sessions. I attended dozens of conferences when working as a technology scout several years ago, and the best conferences had vibrant poster sessions.² No scheduled talks occurred during the poster sessions and there was no difference in quality between contributed talks and posters. Contributed talks were chosen from among the poster submissions based on how well the topic fit a desired theme.³ The

oral sessions become more valuable, poster presentations are no longer stigmatized as second rate, and attendees have more chances to meet people interested in the same topics.

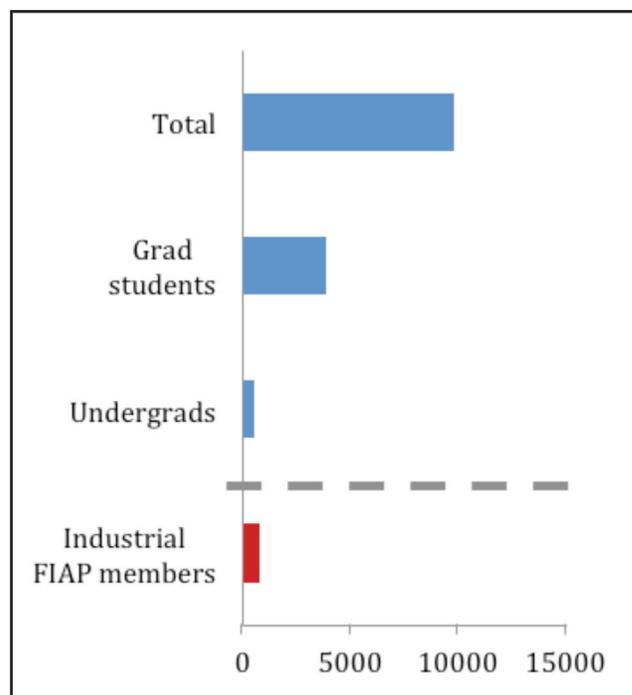


Figure 1 March Meeting attendees by affiliation. FIAP members affiliated with industry inserted for comparison

We need to remember that the value of getting people together in one place lies in **getting them together**. If we are asking people to spend thousands of dollars to replicate an experience that can be had via a YouTube video and a discussion forum, then we are wasting their money. We were the first professional community to embrace the internet; let's not let inertia keep our professional meetings in the 1960s.

1. Burstein, Cardona, Klein, Merlin, Brillson, et al.
2. The 2007 Trends in Nanotechnology conference in San Sebastian and the 2009 Worldhaptics conference in Salt Lake City.
3. Though the selection may have been based on the abstract.

Letter from the Chair: is FIAP a zombie?

Phil Wyatt

As we celebrate the appearance of the first significant FIAP Newsletter in several years, I would like to ask each of you a question that, perhaps, should be asked every year: *Why did you join FIAP?* The purported objective of our Forum is defined

by "The objective shall be to enhance the Society's ability to meet the needs of the industrial and applied physics community, and help the Society take advantage of the evolving opportunities in the practice and application of physics."

This is all well and good, but seems to list an objective that has little to do with the actual needs/intentions of our members. For example, over 40% of our membership is students. Including them, over 60% of our members are involved with Academia and a bare 12.6% are industrially associated. A very difficult demography to understand! I suspect that the stated objective and the actual reasons for our Forum are almost unrelated. We have no student members on our Executive Committee and the concept of finding employment as a physicist is never mentioned. In terms of its members' *real* needs or hopes, is FIAP actually long dead? Or maybe our Executive Committee is just not listening. Please give us a chance to do so.

Please take one moment to answer my question. If you feel like writing a sentence or an essay on the subject, please do. Each and every answer will be listed in a document to be sent to each of our members within a month. To save time, an online anonymous survey is available at SurveyMonkey. So please *just answer our brief survey by clicking [here](#)*.

Warmest regards

Phil Wyatt, Chair
The Forum on Industrial and Applied Physics

March Meeting roundtables

Mark Bernius

This year members of the FIAP Executive Committee initiated a community-outreach effort whereby we sponsored a career theme lunch with interested physics students at the recent March meeting of the APS in Boston. Your senior representatives Ernesto Marinero, Phil Wyatt and Mark Bernius each hosted a round table discussion on the various components for preparing, attracting, and prospering in non-academic employment at commercial or government labs. These three tables were the first to 'sell out' to a broader constituent of students looking to meet and network with

members of the respective APS Forums and Divisions. Topics such as resume preparation, getting noticed, preparing your skill and expectations for a non-academic career, and making the transition to sustain and prosper in industry were discussed with examples from the experience of the respective hosts. Initial feedback is good, and this could be the start of an annual community benefit event FIAP sponsors at the APS March Meeting, as an estimated 45% of the attendees are students.

Working with Human Resources

Many career fair workshop speakers and how-to-get-a-job books share the view that Human Resources (HR) is a necessary evil to navigate in order to get into a company. The more extreme views would say that HR does nothing but add administrative overhead and that candidates should avoid HR like the plague. However, getting an industrial job almost always requires working with HR. With that in mind, the FIAP newsletter sat down with Gary Pease, Human Resource Director, Science, Technology and Engineering for Corning Incorporated to understand who the folks are who become HR professionals and how they would like to interact with applicants. [Editor's note: questions and answers have been edited for brevity and clarity

and technology needs. From a diversity standpoint, the S&T community represents over 70 countries with many affinity groups that share culture and experiences across all of S&T. We have a critical mass of diverse people.

FIAP: So are you hiring?

Gary: We are always looking for top technical talent. We have our ebbs and flows based on economic conditions, but we are continuously on the lookout in key competency areas. We have an active internship program along with post-doctoral and full time opportunities. Attracting, developing and retaining talent is a key priority.

FIAP: Would you describe Corning's Science and Technology Division?

Gary: Corning is a 161 year old company that regularly reinvents itself. As a result, it allocates 10% of its revenues to R&D and research is core to the corporation. We have a world class R&D facility centralized in Corning, New York with presences in Russia, France, Taiwan, China and India. We have a dynamic intellectual environment with regular research reviews, poster sessions, and external speakers. We pride ourselves on having a large central lab because it lets us be flexible to the dynamic nature of innovation. Scientists and engineers can easily move between programs as priorities shift, allowing us to be very responsive to changing market

FIAP: Most FIAP members have never worked in industry. Can you walk through the process from application to hire?

Gary: Companies have to post jobs, so if you are interested in a company and do not know someone there you should start with their careers page and apply in areas where you see a fit. Jobs have to be posted to make the hiring process fair for all applicants. Once your resume is in, recruiters put it in front of hiring managers. Promising candidates undergo a phone screen which may lead to an on-site interview. Candidates are interviewed by a group of people and give technical talks.

FIAP: Have you heard any feedback from talk attendees on what

makes a candidate talk well received at Corning?

Gary: It's always important to have a lot of technical data ready, but you should make sure to answer whatever question had been asked of you. Candidates should ask the interviewer who the audience is, how long the talk to be, and what level of detail to provide. Candidates should make sure that they know the audience and what its expectations are.

FIAP: You mentioned the process for candidates who do not know anyone at the company. What if you do know someone at the company?

Gary: It's always good to work through people you know, but you still have to go through the standard application process.

FIAP: Does networking impact how resumes percolate through the system?

Gary: Personal endorsements always help. If someone knows you and has a good opinion of you, that personal insight will always help an applicant.

FIAP: Are there other ways an applicant can get noticed?

Gary: Publishing, presenting at a conference, interacting with companies at a conference, having a good endorsement from their advisors.

FIAP: With the online application process, what can candidates do to stand out?

Gary: Make sure it is clear what the accomplishments have been. The summary of skills is also very important. The skills should be broadly applicable. At Corning we have a collaborative culture, so indications of good team skills are important.

FIAP: Can you give any examples of what you mean by broadly applicable?

Gary: Skills like project leadership, large data set analysis

FIAP: Do you still ever see standard resumes that people put together?

Gary: Sometimes one is randomly sent. The resume itself has not changed that significantly. It typically has an objective. People should make sure to capture their knowledge, skills, *and* accomplishments. Don't just focus on the tasks you have accomplished.

FIAP: Academics tend to put together exhaustive curriculum vitae. Is that what Corning wants to see?

Gary: I personally do not want to see that. I would say that candidates should lead with a succinct resume and then provide details in an attachment or appendix. Don't force someone to wade through ten pages. Some scientists might want that level of detail, but most of them do not have time to wade through that much detail.

FIAP: Why should candidates work through HR?

Gary: First of all, we hire for the company not a specific department. There's an expectation that HR is deeply engaged in the process. HR can help candidates the more they know about them. I've told people that if they really hate HR I am not going to force you to see me, but the better I know you the better I can represent your interests when you are not in the room.

FIAP: Walk me through the best model for how HR, candidates, and hiring managers can work together

Gary: Hiring managers usually want HR to help at the front-end of the process to help screen applicants and be a gateway for the candidates introducing them to the company, benefits, etc. I think it is a mistake to bypass HR only because you could miss some pretty important points about the company. HR also looks at candidates careers with the company more holistically than just the current job. Candidates are forming what we hope is a long-term relationship with the company, not just the hiring manager. HR can be a great facilitator of your career if they know about you. HR can protect people, represent people, and bring a balanced viewpoint on people. I would say candidates should take the risk of trusting first. Establishing a long term relationship with the HR Manager can be beneficial from a long term career perspective.

FIAP: Since the hiring process involves the candidate, hiring manager, and human resources, what red flags should candidates look for to see if the hiring process is not working?

Gary: From the applicant side if they feel there has been a lack of communication they should highlight that. From HR's side, if they see that the process is getting bogged down we should do everything we can to knock down barriers. HR can act as a catalyst to move through the process. If you aren't getting what you want as an applicant, it is OK to ask for information.

FIAP: How frequently should applicants check on their status?

Gary: It is really situational. We are trying to form a process so that the applicant always knows where they stand. If the applicant isn't hearing they should reach out and ask if they need to provide anything, but it is really up to the company to communicate and let the applicant know what timing to expect. I usually find that the biggest challenge is that the hiring managers get really busy. HR can not hire for the managers.

FIAP: If applicants don't hear anything past the timeline outlined by the company, who should they contact?

Gary: Typically I would start with HR because you want them to be aware that you want to understand where you stand in the process. HR may have the answer. Hiring managers are usually very busy.

FIAP: What is the best way for candidates to reach out, phone or e-mail?

Gary: It is personal preference. Sometimes hiring managers want to keep a personal touch. Often they will send an e-mail and follow up via phone.

FIAP: Any other final words of advice to candidates, hiring managers, or HR professionals?

Gary: Candidates are interviewing the company as much as they are interviewing you. Do research on the company. Understand the businesses and technologies the company is in. Ask a lot of questions. Come prepared with questions. One of the turn-offs I hear is that candidates don't seem that interested, that they didn't ask anything. Candidates should not be passive in the interviewing process. What is really important is not just what you technically know, but how you come across and do things. You need to understand the company's culture. Corning has a history of life-

changing innovation, but it also has a history of values and ways of interacting with each other. That does not mean candidates can't be themselves, it just means that they have to understand the culture they are entering. We value people that can question things but in a respectful way. Candidates who show how they can contribute

broadly beyond their job description end up adding the most value to the company. And as an employee, look to add value at all times and don't be constrained by your job description.

FIAP: Thanks for taking the time to speak with us.

Call for nominations: FIAP members for APS Fellowship

Professional Fellowship status is awarded by the Forum for Industrial and Applied Physics (FIAP) each year to those members who have distinguished themselves by their various career accomplishments and achieving such proficiency in their craft to be recognized by their professional peers. APS members in FIAP are eligible for nomination and election to fellowship. Each nomination is and will be evaluated by the FIAP Fellowship committee and passing that are then nominated to the APS Council for further consideration and final election.

The deadline for 2012 consideration is fast approaching: June 1 for a complete package. Please submit nominations and supporting materials to the APS website, who will be handling the first screen for us:

<http://www.aps.org/programs/honors/fellowships/nominations.cfm>

As FIAP represents industrial and applied physics in industry and supporting roles (for example, preparing students for such activity in academia), metrics such as patents and NPV (value) of projects completed in industry count as much as publications and discoveries reported in Science and Nature.

Remember, the APS wants supporting materials completed by June 1 for 2012 consideration. Don't delay, act today!

Thank you.

Mark Bernius
Chair Elect
Chair, Fellow Nominating Committee

Officer nominations for 2013-2016 term

The Forum on Industrial and Applied Physics is electing one Vice-Chair, one APS Councillor, and two Members-at-Large for the 2013-2016 term in the fall. All APS members belonging to FIAP for

at least one year are eligible for nomination. Nominations should be submitted to a member of the FIAP executive committee or to the FIAP Newslette