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October 3, 2005

To: Yves Brun
Systems Biology Faculty Search
Department of Biology
Indiana University

From: Kathryn Barton
Department of Plant Biology
Carnegie Institution
Stanford, CA

Re: Pablo Jenik

Dear Dr. Brun,

I am pleased to recommend Dr. Pablo Jenik for a faculty position at Indiana University. Dr. Jenik joined my lab after pursuing his doctoral work at Yale in Vivian Irish's lab. Prior to that, I had met Pablo at several meetings while he was a graduate student and was impressed with his natural curiosity and very apparent love of science. Accepting him into the lab was a very easy decision and I have not been disappointed. I am certain he has all the necessary attributes to become an excellent independent researcher, teacher and scholar.

The research Dr. Jenik has chosen to pursue, development in the early plant embryo, is in an area that is largely underexplored. As to the significance of this area of research, plant development is the result of a grand and successful experiment in the evolution of multicellularity that occurred independently of a similar experiment in the animal phylum. An understanding of the fundamental process of embryo formation in plants is expected to give us a more general understanding of developmental mechanisms utilized by organisms on this planet.

Dr. Jenik has studied a mutant that links cell division and embryonic patterning. We intuitively understand that these processes must be closely coordinated but there is surprisingly little in either the plant or the animal literature on how this happens. The *Arabidopsis tilted* mutant was isolated based on its asymmetrically placed shoot/root axis. Pablo has shown that this asymmetry is due to a lateral displacement of the organizing center for the root. He has also shown that the phenotype is caused by an unusual missense mutation in the gene for the *Arabidopsis* DNA polymerase epsilon. (In fact, this appears to be the only viable DNA polymerase epsilon mutation in a multicellular organism. Null mutations in this gene result in embryo lethality.)

Pablo's careful quantitative analysis of the mutant phenotype has yielded two additional important insights. First, this mutant shows a normal pattern of accumulation of the growth regulator auxin yet an abnormal pattern of root cell specification, thus showing that while auxin may be necessary for specification of the root organizing center, it is not sufficient. Second, his measurement of cell cycle time during embryogenesis in wild-type and mutant embryos has provided evidence for an "embryonic checkpoint" in which the embryogenesis arrests at late globular stage and only resumes once the embryo has achieved a certain state of competence.

Pablo has shown a high degree of independence in his postdoctoral work and will take his project with him to start his own lab. He is pursuing several other embryo lethal mutants that should add much to our understanding of plant embryogenesis. This area of research is well suited to the development of research projects both at the graduate and undergraduate levels.

Pablo is truly dedicated to and intrigued by the problem of embryo development and I am quite confident will establish a productive research program in this area. He also has a strong interest in the evolution of developmental mechanisms that was cultivated while he was a graduate student studying floral development. I expect that as his research program matures, he will incorporate his interest in evolution with the study of embryogenesis.

Pablo gives clear and enjoyable research presentations. Last summer at the FASEB Conference on Plant Development he gave a talk on behalf of the lab. It was exceptionally well prepared and delivered. For this reason, I expect that Pablo will be an excellent lecturer in college level courses. He was also highly effective in supervising the research of an undergraduate summer intern in the lab. I should perhaps also mention that while Pablo is a native Spanish speaker, his spoken and written English is excellent.

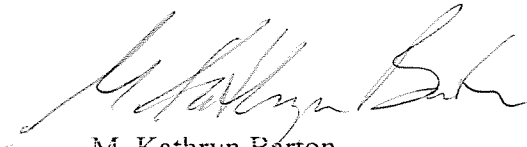
Pablo has a strong interest not only in his own research but is also interested in work done by others. He is very attentive at our weekly colloquia and always has a good question for the speaker. I think this curiosity and interest will make him a valuable and interactive colleague. He was also instrumental in starting up and running a Carnegie wide journal club on Developmental Biology.

On a personal level, Pablo has a calm and cheerful personality. He loves art, world literature and tango (he is from Argentina after all!). He has learned the art of Indian cuisine

from his wife Sri and dinner at their house is an event not to be missed. We will miss him when he leaves.

In summary, Dr. Pablo Jenik is a talented young researcher and scholar who will be pursuing exciting and novel research on the problem of plant embryogenesis. I am certain that he will continue to make important and original contributions to this field. He has my unqualified and enthusiastic support.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "M. Kathryn Barton". The signature is written in black ink and is positioned above the printed name.

M. Kathryn Barton