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Dear Search Committee,

This letter is to recommend Dr. Debraj GuhaThakurta for the faculty position in your department. Debraj was a post-doc in my group for over two years before moving to his current position as a senior research scientist at Rosetta. He had received his Ph.D. in Biochemistry from Johns Hopkins where he worked on RNA-protein interactions in David Draper's group. He wanted to move into the area of Bioinformatics, which is the field of research he did with me. He came to my group with a little experience in programming and bioinformatics research, but it was still new to him. But I knew that his experience in molecular biology would give him a good background on the kind of problems we are working on. Part of my group does experimental work and the other half does computational work and I find it important that the two halves communicate well with each other and know what the others are doing. Debraj's background made that part easy. Equally important was that he quickly learned the skills he needed to develop new programs for his own research, which involves applying pattern recognition methods to the problem of identifying transcription factor binding sites from upstream regions of co-regulated genes. He developed a new approach that specifically searches for pairs of cooperatively interacting transcription factors and showed that it could find sites not found by other methods. In fact, after that paper was published he collaborated with Dr. Linda Breeden, at the Hutchison Cancer Center in Seattle, to help identify the binding site of a transcription factor that they had been unable to identify by other means. He then began a collaborations with two groups studying gene regulation in *C. elegans*, Dr. Chris Link of the Univ of Colorado and Dr. Bob Waterston in my department here (before he left for the Univ. of Washington). In both cases he identified computationally previously unknown regulatory sites, in the first case involved in the heat shock response and in the second case involved in muscle-specific gene regulation. In both cases we have followed up those predictions with experiments to verify that the predicted sites are, in fact, real and involved in the regulation of gene expression. We continued the followup experiments after Debraj left, including further analyses and input from him in his spare time, and just published the final paper on that work last December in *Genome Research*. Debraj was critical to all aspects of that work, and even though he didn't do the experimental tests himself, which were done by a technician in the lab, he had a large hand in designing those experiments and in analyzing the results.

Debraj has been a pleasure to work with in the lab. He learns quickly and asks good questions when he doesn't understand something. He has helped others in the group when his expertise could help solve a problem they were struggling with, both on the bioinformatics side and the experimental side. His

experience in both fields has also made the collaborations with other research groups go very smoothly. They can describe their results in some detail and he doesn't have any problem understanding the experiments, and he can translate his computational results back to them in ways that they understand easily. Such interdisciplinary expertise is relatively rare, and Debraj makes good use of it.

Debraj is clearly a very intelligent person and is also highly motivated. I was a little surprised when he initially decided to go into industry rather than an academic job right after his post-doc, because I thought he could easily obtain a faculty position. I think his decision was partly based on his young family and the desire for a industry-level salary, and also because, at the time, he did not have permanent resident status which would limit his ability to obtain some types of grant funding. Now that he has his green card he is anxious to get back into an academic environment where he can pursue his own, independent research interests. I heartily concur with that decision because I think he has excellent potential for academic research, and I also think that he will make an excellent teacher. While I have not observed him directly in a classroom setting he has always been very articulate in describing his research in seminars and in helping students understand the basics of his methods and results.

I don't have any negatives to add about him. He was a model post-doc in my group, the kind one wants to keep even when its clear they are ready to move onto to being indepentdent. I think he will do very well in an academic setting, just as he has in industry over the last few years. I recommend him very highly and without any reservations.

If I can answer any further questions, feel free to contact me by phone or email.

Sincerely,

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