



HARVARD MEDICAL SCHOOL
BRIGHAM & WOMEN'S HOSPITAL
DEPARTMENT OF MEDICINE



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Biocomplexity Faculty Search Committee
c/o Prof. Rob de Ruyter van Steveninck
Biocomplexity Institute
Indiana University
Swain Hall West 117
Bloomington, IN 47405-7105, USA

December 31, 2003

Re: Plamen Ivanov
Application of Faculty Position

To whom it may concern,

I very highly recommend Dr. Plamen Ivanov to you for a faculty position in your Department.

I have worked closely with Dr. Ivanov over the past 2 years and I have been able to fully assess his potential for success as an independent faculty member in a top ranking institution like yours. Among numerous landmark papers and projects, Dr. Ivanov has brought to bear many sophisticated analysis techniques to uncover important properties of the numerous human physiological control systems including aspects of cardiovascular, sleep and activity regulation. In 2002 we began a collaboration concerning the effects of sleep and circadian rhythms on human cardiac dynamics as a means of understanding the peak in cardiac related deaths that occurs in the early morning. Dr. Ivanov has been central to this collaboration in terms of the initial ideas as well as data analysis using sophisticated techniques developed from statistical physics. He has supervised two Boston University graduate students (Kun Hu and Zhi Chen) who have been analyzing the long-term recordings that were made in my laboratory. This collaboration has already led to a successful RO1 grant application (PI = Eugene Stanley, Boston University) and a pending competitive renewal. Dr. Ivanov wrote most of these NIH applications. Our first collaborative manuscript relates to the measurement of human activity levels across a number of protocols. We believe that we have uncovered a robust intrinsic complex dynamic regulation of human activity. This manuscript is currently under review, with one of Dr. Ivanov's graduate student's as first author. We have also developed a long-term goal of understanding in humans the mechanistic interaction (synchronization) among numerous related variables (heart rate, activity, core body temperature, sleep stage and blood pressure).

Over this period of collaboration, I have certainly realized that Dr. Ivanov can collaborate effectively with people, he can supervise, motivate and train students to be successful and

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productive, and he is at the top of his field in terms of data analysis using complex statistics. I have been to many of Dr. Ivanov's presentations and it is obvious that he is very knowledgeable, and has a very good grasp of English. Given his eclectic interests and expertise, I certainly believe that he would be able to develop a very successful independent research program at your institution. In addition, I anticipate that he would be immediately productive, as he would likely continue his numerous established collaborations across Boston as his type of work often can be accomplished at long distances.

In summary, I believe that Dr. Ivanov is a very motivated and hard working individual and I anticipate that if selected Dr. Ivanov will become an outstanding researcher and teacher on your faculty.

Please feel free to contact me to discuss his application further.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'S. Shea', written in a cursive style.

Steven A. Shea, Ph.D.
Associate Professor of Medicine