JOHNS HOPKINS
UNIVERSITY

The Thomas C. Jenkins
Department of Biophysics
Jenkins Hall / 3400 N. Charles Street
Baltimore MD 21218-2685
410-516-7245 / FAX 410-516-4118

Bertrand García-Moreno E., Ph.D.
Tel: (410) 516-4497
Fax: (410) 516-4118
bertrand@jhu.edu

December 23, 2003

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

Dear Colleagues,

I am writing enthusiastically to recommend Dr. Dmitri Toptygin, who is applying for a position in your Department. I have known Dr. Toptygin since the early 90's, when he first arrived at Johns Hopkins. Although we have never collaborated formally, I have followed his work with great interest because of its implications to dielectric relaxation processes in proteins, which are of interest to me.

Dr. Toptygin trained in optical spectroscopy in Russia. Unlike other spectroscopists I know who are currently working with biological systems, Dr. Toptygin's natural home is in a physics department. He is first and foremost a physicist, and it is only through his collaboration with Prof. Lenny Brand in the Department of Biology at Hopkins that he got involved with biological macromolecules. This gives him a tremendous advantage over other spectroscopists, who are not as well rooted in spectroscopy. At the same time, he is completely at home working with proteins and other biological systems, and he understands what the important questions related to macromolecular structure and function are. I am not sure that he could run the biochemistry component of a biophysics lab on his own, but this should not be an issue to be concerned about. My sense is that he will run his research program by developing close collaborations with biochemists and with more traditional biophysicists that are experts in biochemical manipulations. What Dr. Toptygin has to offer is considerable more valuable and rare. He will be much sought after by the members of our community, precisely because of his extensive and unique expertise in the time-resolved fluorescence of biological molecules.

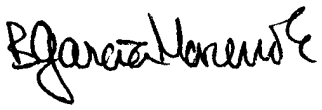
During the past 6 years Dr. Toptygin has done some extremely important work in the area of fluorescence in heterogenous media. His interpretation of the origin of multiple lifetimes in time-resolved spectra of tryptophan in proteins has not been without controversy. However, I have no doubts whatsoever that eventually this work will be recognized as an important landmark in the field, loaded with important implications for understanding dielectric properties in the protein interior, protein dynamics, hydration processes in proteins, and catalysis.

Dr. Toptygin embodies a rather unique combination of expertise in physics with a deep understanding of the interesting problems in structure-function and structure-energy of biological macromolecules that can be addressed by the optical spectroscopic methods in which he has expertise. He stands to make a significant contribution in this field. Furthermore, with his background, he could easily shift into other areas of research, in nuclear magnetic resonance, for example, if changes in the trends in research thus required. He is as talented and capable a spectroscopist working with biological molecules as you are likely to find.

My sense is that Dr. Toptygin has the potential to develop into an excellent colleague. He is always very professional, extremely bright, completely engaged with whatever interests him. He will be a stimulating and generous colleague. I have also noticed that he is a very sought after mentor, who gives generously of his time to train students. He is a challenging anda competent teacher.

Please do not hesitate to contact me if I can help you further evaluate Dr. Toptygin's qualifications and potential for this position.

Sincerely,



Bertrand García-Moreno
Professor of Biophysics