

October 13, 2003

Faculty Search Committee  
Department of Physics  
Indiana University  
Swain Hall West 117  
Bloomington, IN 47405-7105

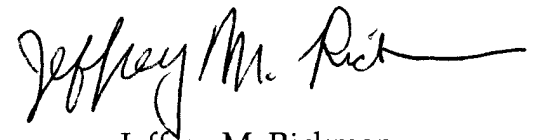
Dear Sir or Madam,

I am writing this letter to recommend strongly to you Maria Gracheva for a faculty position in your department. I have had the opportunity to work with Masha for a year and a half or so, prior to her departure for Minnesota, in collaboration with Prof. Jim Gunton of the Physics Department. In that capacity I have observed that she is a highly-intelligent and dedicated young scientist who is able to work on several different projects at once. In particular, she took the lead on two very distinct and challenging research problems, one involving the determination of numerical coarse-graining schemes for liquids and solids using histogram methods, and the other involving the modeling of calcium dynamics in living cells. Although her thesis research focused on the simulation of vortex line motion in superconductors, she was able to master quickly the skills necessary for these new lines of research.

The project to develop homogenization schemes has been quite successful and has resulted in an archival journal publication ("Coarse-Grained Ginzburg-Landau Free Energy for Lennard-Jones Systems", M. Gracheva, J. M. Rickman, J. D. Gunton, *J. Chem. Phys.* **113**, 3525 (2000)), two conference presentations and another manuscript (in preparation). The conference presentations have, in particular, been well-received and generated interest in her work. While I have not been directly involved in the calcium dynamics project I understand that there is substantial progress here as well, and that Prof. Gunton is very pleased with the results obtained thus far. Based on her experiences at Lehigh and Minnesota, Masha has conveyed to me her particular interest in pursuing a research career in biophysics, and I fully expect, given the abilities that she has demonstrated, that she will be very successful in this enterprise.

In summary, I believe that Masha is very well-suited for a faculty position at this stage in her career. I therefore recommend her to you without reservation. If I can be of any further help or provide additional information, please do not hesitate to contact me by phone, e-mail or regular mail. Thank you for your time and consideration of this fine candidate.

Sincerely,

A handwritten signature in black ink that reads "Jeffrey M. Rickman". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Jeffrey M. Rickman

Class of '61 Professor

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