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To whom it may concern

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Letter of recommendation for Yi Jiang

It is a pleasure for me to write about the excellent qualities of Yi Jiang in support of her application for a faculty position.

I have known Yi since we began our collaboration on cellular patterns in April 1998. I spent one week at the University of Notre Dame, Indiana to visit James Glazier, with whom she was a graduate student. She was so independent and mature at that time that in fact it is mostly with her that I worked on the structure of cellular patterns. Since she was simultaneously quick, hard working and efficient, that week turned out to be surprisingly intense and fruitful. Although a numerical physicist herself, she was able to discuss with precise arguments on the theory of cellular patterns, as well as experiments in both physical patterns and living cells. She already possessed the qualities required for interdisciplinary collaborations: both a solid knowledge of her own field and a curious mind open to other researchers' approaches.

The collaboration naturally resumed during her postdoc at Los Alamos. Since she (and only she, as far as I know) mastered both her technique of cellular pattern simulations and the scientific intuition needed to analyse them, she was able to quickly explore different trails and follow the most fruitful one after a thorough discussion of research objectives and strategy. Thus, the following year, we were able to understand the origin of shape and structure of physical cellular patterns, and link a cellular structure to its mechanical properties. This results immediately aroused the interest of rheologists as well as biologists studying cell trajectories within confluent layers and tissues.

Since Yi got a position in Los Alamos, we have had several occasions to collaborate, mostly on the flow of foams, for which I provide the experimental aspect, Yi the simulations, and we work together on the theory. The Review of Modern Physics invited us to write a paper on this subject.

C. Raufaste, a PhD student, is performing here experiments in a home-made foam channel. Through e-mails and invitations to Los Alamos, Yi trained him in simulations and made him quickly obtain results to be compared to his experiments. He is delighted by this intensive, highly stimulating and productive co-supervision.

Yi's scientific maturity means that she is able to face a complex problem and find the best approach to address it. This is possible because she can rely on her robust modelisation skills, both in theory (analytics) and with computers (simulations). In fact, she now masters enough different techniques, discrete and continuous, at small and large scales, that she can focus on the most suitable one. This strong basis turns particularly helpful when she initiates collaborations with other leading experts in different fields, especially in biology, in maths and in experimental physics.

Working with Yi Jiang has been (almost daily) and still is a rich pleasure scientifically as well as at the human level. Both independent and willing to collaborate, her capacity to interact and her perseverance more than compensate for the inconveniences of (across the Atlantic) distance and jetlag. I am deeply confident that her presence in your department would certainly be precious.

In conclusion, I very strongly recommend Yi as a faculty candidate.

Sincerely,

François GRANER
Directeur of Research

PS : If you want to ask me more questions, or if you required a signed original letter, please do not hesitate to contact me.