



टाटा मूलभूत अनुसंधान संस्थान
TATA INSTITUTE OF FUNDAMENTAL RESEARCH
नाभिकीय विज्ञान एवं गणित के लिए भारत सरकार का राष्ट्रीय केन्द्र
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To whomsoever, it may concern

It is indeed my great pleasure to acknowledge the continuous and fruitful collaboration over past eleven years with Dr. Kiran Kolwankar, an expert theoretical physicist in Non-linear dynamics and Associate Professor at Department of Physics, Ramniranjan Jhunjhunwala College, Ghatkopar, Mumbai.


In 2010, I had approached him for theoretical support in understanding the dendritic patterns that we observed in our experiments on irradiation of biological fluids with low powered laser. This work was published in the Journal Physical Chemistry C (H. Basu, K. M. Kolwankar, A. K. Dharmadhikari, J. A. Dharmadhikari, K. Bambardekar, S. Sharma and D. Mathur, "Laser-Driven Accelerated Growth of Dendritic Patterns in Liquids", J. Phys. Chem C 116, 11840 (2012)). Subsequent to this work, three students from the Department of Physics, University of Mumbai carried out further research in this topic for their M. Sc. project under his guidance. Their work was published in Pramana - J. of Physics (Kiran M Kolwankar, Pulkit Prakash, Shruti Radhakrishnan, Swadini Sahu, A. K. Dharmadhikari, J. A. Dharmadhikari, and D. Mathur, "Effect of heat source on the growth of dendritic drying patterns", Pramana 84, 387 (2015)).

Recently, we published a paper that appeared as a letter in Physics of Fluids. (Krishnkumar Gupta, Kiran M. Kolwankar, Bhalchandra Gore, Jayashree A. Dharmadhikari, and Aditya K. Dharmadhikari, "Laser-driven Marangoni flow and vortex formation in a liquid droplet", Phys. Fluids 32, 121701 (2020)). In this work, we investigated the effect of laser focusing on Marangoni flow and curvature induced vortex formation in an absorbing liquid droplet. This work was a part of M.Sc. final year project of his student. Currently, one student from his Department is carrying out M.Sc. final year project in my laboratory.

I was associated with Department of Physics, Ramniranjan Jhunjhunwala College as a member of board of studies for undergraduate and postgraduate courses during 2018 to 2021. I am sure our research collaboration in the topics of mutual interest will continue in the future.

AK Dharmadhikari
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TRUE COPY**


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