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To whom it may concern

I am extremely pleased to write this letter of recommendation for Mr. K. Nandakumar Chandran, to support his application for admission to the Dual Doctoral Programme offered by IIT Kharagpur and the University of Manchester. I have been Nandakumar's supervisor since the beginning of his Master's course and have experienced his deep passion for understanding the physics of nature. He is one of the few exceptionally gifted students that I have met in my career as a Professor, which has led me to recommend him as a potential candidate for your prestigious institute. As an active member of our research group at the Micro/Nanofluidics Research Laboratory, I have closely observed how he matured over the period as a researcher by putting forth innovative and creative ideas while contributing to his career and his fellow teammates. Among his achievements and accomplishments, I would like to point out that he was the topper of the institution for a postgraduate programme specializing in Thermal Science, showcasing the academic excellence he possesses.

I first met Nandakumar when he was a freshman at our institution for his Master's Programme in my Advanced Fluid Mechanics course. His urge to know the concepts of the physics of fluids has always astonished me from the very beginning. From my perspective, he is a creative problem solver who gives careful attention to details and follows tasks through to their completion. As a freshman, he showed no resistance to getting along with others and mastered laboratory techniques, experimented with his ideas now and then with his seniors in Laboratory. His self-motivation and his exuberant personality have always made him the best choice among his peers as a valuable research assistant. I recollect during the academic years, the time and effort he had spent independently studying CFD tools like OpenFOAM. In addition, he used to arrange classes for his juniors to help them with understanding the basics of such tools and develop their research materials.

During the early stages of the master's course, he had developed immense interest in subjects of Fluid Mechanics and Computational Fluid Dynamics. Upon realizing that he could be a valuable asset, I introduced him to our Micro/Nanofluidics Laboratory and he did respond positively to join the group. He did have particular interests in multiphase problems and soon started researching the field of droplet dynamics in our Lab. I enjoyed the healthy discussions we had after working hours; where he was not hesitant to ask questions to ensure that he gained a firm understanding of concepts. His curiosity towards exploring new fields of multi-disciplinary applications of engineering is

very much to be appreciated. When he was a sophomore, he had exhibited his leadership skills, by collectively organizing the research group meetings wherein he used to emphasize the analytical, numerical, and experimental analysis of projects under progress. His strong grip on Mathematical interpretation of physical phenomena under study has contributed much to our community. Even after getting placed in a reputed multinational company after the degree, he continued his research work independently; this allowed me to guide him in his research work which recently got published in a reputed journal.

In addition to conducting research, it is to be commented on the service mentality that his character holds. Nandakumar has also been volunteering at various events viz. Applied Mathematics for engineering Research (short term course), Seminars in International Conference on Materials, Mechanics, and Management, where he has been able to strengthen coordination and collaborative skills among diverse co-workers. Also, during his course, he used to be a supporting member for OPES Step4U programme, a remedial coaching/training program for undergraduate students from socially economically, and educationally backward classes, which evidently proves his social commitment. After knowing him personally for the past 6 years, I really admire his optimistic nature even during difficult times. Furthermore, Nandakumar possesses a charming personality, maturity, and responsibility which impressed me as his mentor. Saying about, how highly motivated this individual is, I would like to share that he is currently doing some research under me in the field of compound droplets finding the time and managing his work-life balance to produce results with utmost quality. Overall, on working with Nandakumar for these years, I strongly believe he has ample research experience and academic excellence which are essential in this challenging and competitive environment. His belief in continuous improvement has been evident in his career where he actively seeks new opportunities and experiences to learn more. His sincerity and integrity have gained him respect among his peers and a certain liking among the faculty members. I could assure you of the talent he is, an independent learner, critical thinker, and diligent personality who is a promising asset to the scientific community. I am, therefore confident that Mr. Nandakumar will undoubtedly be contributing in various aspects to your institute and would truly be a superior addition to the student body at both the institutions. If I can further assist, kindly do contact me for any clarification required.

Yours sincerely,



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