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Tribute to Professor Padma Kant Shukla on the occasion of his 60th birthday

As the Journal of Plasma Physics so fittingly dedicates this current volume to honor Professor Padma Kant Shukla, for his extraordinary and prolific contributions to the field, over a period spanning four decades, on the occasion of his 60th birthday, it gives me great pleasure to contribute this personal tribute. Padma is without doubt one of the preeminent plasma theorists of his generation with a productivity that is phenomenal and perhaps unmatched (well in excess of 1000). What is truly impressive is not only his extraordinary productivity but also the depth and breadth of his contributions, which while being centered in plasma physics, bridge many other disciplines including condensed matter physics, particle physics, and geophysics. Although I was familiar with Padma's work, in several areas, earlier, I first met him about 20 years ago, when he began working in a field of great interest to me, namely dusty plasmas. Very quickly Padma became a leader in this very new and rapidly developing field, in particular, pioneering the fascinating area of waves in dusty plasmas; predicting the existence, among others, of the very low frequency dust acoustic mode, which was spectacularly observed subsequently in the laboratory, and has been cited about 1000 times since. During this time I got to know Padma very well while participating in numerous international meetings convened by him and also while hosting him, several times, as a visiting professor at my home institution, and observing his multifaceted talents as an outstanding scholar, inspiring mentor, tireless organizer, and committed humanitarian. While Padma's accomplishments are extraordinary, what makes them even more noteworthy is his personal history. Padma came from a family of modest means in a small Indian village. He was the first member of his extended family who went to college, mainly due to the efforts of the village schoolteacher who obviously recognized the young student's innate talent. Living up to his schoolteacher's expectations he later graduated (with honors) from Agra University at the age of 17 and then proceeded to obtain his PhD in physics from the Hindu Banaras University, at the age of 21. He then proceeded to the University of Umeå, Sweden, on scholarship, and quickly blossomed to his full potential under the caring guidance of Prof. Lennart Stenflo, while also earning his second PhD, three years later. These early experiences deeply influenced Padma;

on the one hand he recognizes that raw talent exists in all corners of the world, and on the other hand he feels a deep commitment to help discover, nurture, and mentor such talent. Toward this end Padma did several things. He organized numerous international meetings in both developed and developing nations. He has also continued to organize the annual Plasma Physics Summer School at the Abdus Salam International Center for Theoretical Physics in Trieste, Italy. He has used these opportunities to discover promising young scientists from the world over, helping them to come to his host university in Bochum, with support obtained from various international organizations, and mentored them. These young scholars, haling from every continent of the world, have gone on to become active scientists in their own right and many have proceeded to become leading researchers, educators, and administrators in their home countries. It is in recognition of his "extraordinary efforts in the discovery, the nurturing and mentoring of scientific talent across the globe" that he received the highly prestigious Nicholson Medal, awarded by the American Physical Society, for human outreach by a leading scientist in 2005. In recognition of his outstanding scientific contributions Padma has received numerous international honors including several honorary doctorates, foreign membership of several national academies, fellowships of a number of international scientific organizations and prizes. Yet, I think that among all these honors, the Nicholson Medal perhaps is the most appropriate because it recognizes what Padma truly is: not just a great scientist but one who is also an outstanding humanitarian. It has been a great privilege to have known Padma for the last twenty years. I have been inspired by his life and his work. Personally, as well as on behalf of all his friends and admirers in the scientific community around the globe, I wish Padma a long, happy, healthy, and prosperous life, with continuing success in all his endeavors.

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