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Preface to the Special Issue: Nano-Particles Doped Organic Thin Films and Crystals

This special issue is written to highlight the beneficial attributes of nano-particles doped organic thin films and crystals, as expressed by the properties and usage of having selected condensed matter systems of atoms, molecules, or complex structures. While understanding the physics of pure and doped crystals has been the primary goal in academia for scores of years, with the complementary use of crystalline material in optoelectronics and the military, nano-particles doped systems have gained such an importance in recent years that they are almost to the point of being equal or "on-par" with crystal usage. Simultaneously, from the acquisition of greater knowledge and widening their application, both thin films and crystals are finding pathways into medicine, surveillance, and homeland security, where they hardly participated before. This current level of knowledge and usage is just the "tip of the iceberg," so to speak. The future holds even greater levels of comprehension, followed by other extraordinary, and possibly exotic usage of material systems, though they may be doped thin films in some cases or their crystalline counterparts in others. The main property that gives nano-particles their influential behavior is the higher surface area to the volume ratio, thus leading to unprecedented electric forces, appropriate quantum-mechanical operators, which otherwise would be absent. It is the presence of these forces that drive the occurring phenomena, and the nine papers of this special issue represent these observations.

In this regard, it is the newly trained researchers and academic types as well as the experienced scientists and engineers who are the targeted users of this special issue. The new scientist or engineer could use the compendium of papers (from paper 1-Edwards, et al. to paper 9-Batra, et al.) to focus his/her investigations, while the continuing pursuers will equally as well find the special issue a valued resource in their scholarly pursuits.

In preparing this special issue, a number of persons have greatly assisted me. Firstly, there are a number of individuals who participated on the Double-Blind Peer Review and Editorial Committee. These five individuals, who served so admirably, all employees of Alabama A&M University, were: 1. Dr. Salam Khan, assistant professor of mathematics, the committee's chairperson, 2. Dr. Yinshu Wu, assistant professor of mathematics, the committee's vice chairperson, 3. Dr. Afef Janen, an instructor/researcher in physics, who also served dutifully as the assistant to the Guest Editor, 4. Dr. Padmaja Guggilla, associate professor of physics, and 5. Dr. Satilmis Budak, professor of Electrical Engineering. Without the help of these individuals, this special issue could not have been produced. Then, I thank Van Shell, of Scientific and Academic Publishing, for introducing the concept of a special issue and his cooperation throughout its production, and I thank also the American Journal of Materials Science Editor for accepting this special issue. Next, I give thanks to my colleagues and staff in physics at AAMU who lead by example with their dedication and hard work that inspired me to complete this edition. Moreover, as the Guest Editor, I am thankful to the blind peer reviewers for helping to ensure that quality research is published in this special issue. I would be remiss not to thank each of the contributing authors for conducting cutting-edge research and then offering it to the community via this special issue. Lastly, I am deeply grateful to my spouse (Glenda Edwards) and children (Matthew Edwards, Jr., Natasha Edwards Hall, and Glenda's grandson Courtland Cutler) for their consistent encouragement and unwavering support.

Finally, I truly hope that you find pleasure using this special issue as much as we have enjoyed preparing it, and that the knowledge it contains helps to unlock for you even greater realities and new discoveries in the sciences and engineering!

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