

Graphene, Advanced 2D Materials & Semiconductors**Diamond, Graphite & Carbon Materials**

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A review on the mechanism of pigment dispersion and its application to liquid phase exfoliation and dispersion of graphene**Christiana Agbo**Cape Coast Technical University,
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In the quest of ensuring successful pigment dispersion, additives are used to aid dispersion and stabilization of pigment particles through attraction forces of various chemical nature including van der Waals and “liquid bridge” forces as well as anchor groups with high affinity for pigment surface. On the other hand, dispersion efficiency

is significantly dependent on the effectiveness of various dispersion equipment and their energy transfer, dispersion force, and effectiveness. The common denominator for all this equipment is that; dispersion is achieved by shearing forces produced by the application of high positive and negative attrition. This presentation reviews and explores the nature and the significance of the various methods and forces in pigment dispersion and the various stabilization mechanisms adopted in producing stably fine pigment particles, dispersion application as well as future prospects. In addition, it explores how these mechanisms might apply to liquid-phase

exfoliation and dispersion of graphene and other nanomaterial.

Biography

Christiana Agbo is a research-oriented and hardworking Textiles Engineer with expertise in pigments, dispersants, and the dispersion process. She has a great passion for impacting through teaching and research works. Her ability to identify and solve problems based on research and a good sense of observation creates new pathways for improving faulted processes in the field of pigment dispersion mechanisms and its application for obtaining desired results for the desired end use. She has over the years built a great deal of experience in research and teaching in the educational field. Having attended key educational conferences such as the International Symposium of Functional Textiles as well as co-authored research articles published in key journals, she has gathered great resources for the development of the textile industry. Her main research focuses on dispersant synthesis, pigment dispersion, ink formation, advance fabric finishing, application of inks on various fabric types and digital printing.

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