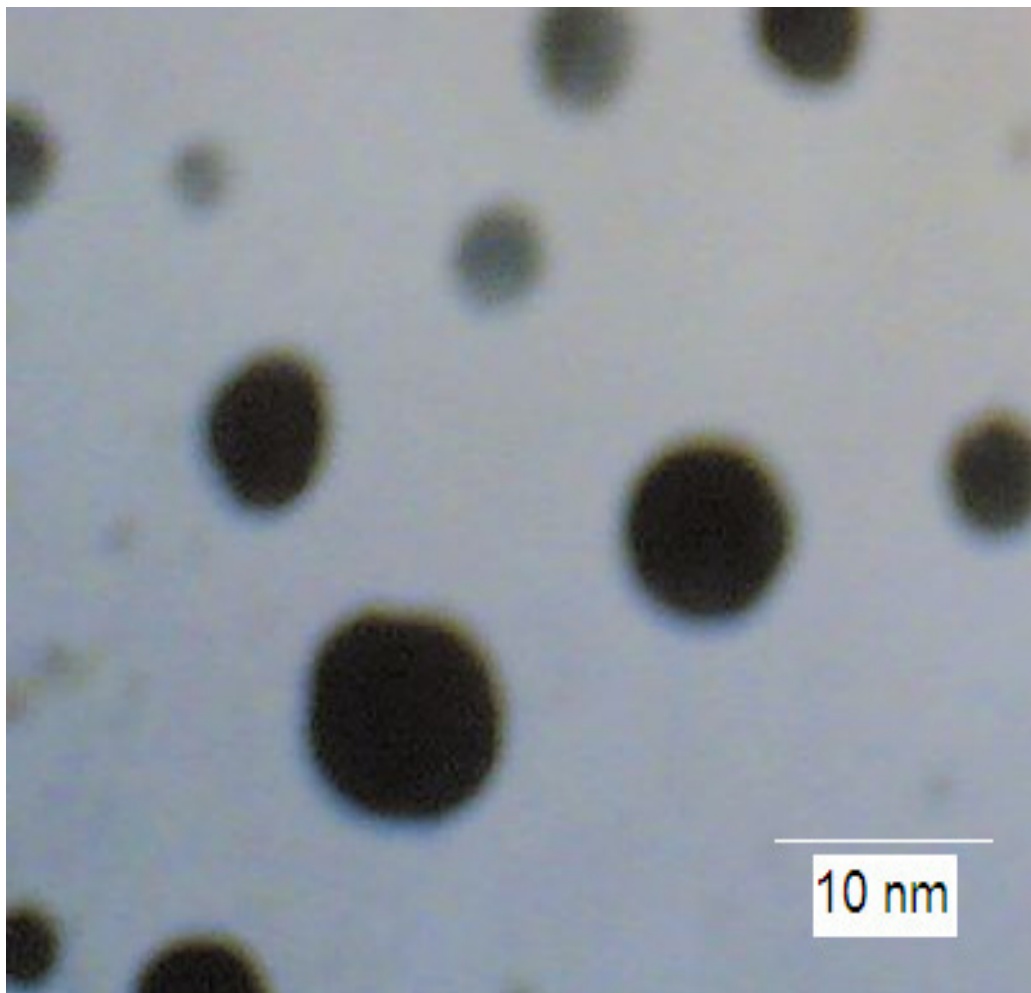


**Journal Nanotechnology Progress International (JONPI),**  
**2011, Issue 4, pp 1-56**



Editor-In-Chief

Ejembi John Onah, D.Sc

Professor of Chemistry, Nanoscience and Nanotechnology

ISSN 1941-3475 (Online)

Copyright 2009-2011 Focus Nanotechnology Africa Inc. All rights reserved

## Content

Editorial	3
Article	6
Part 1: Improving the tuning phenomenon of CdS quantum dot by Fe <sup>3+</sup> Doping Gope G. *, Nath S. S., Chakdar D., Das R.	6
Part 11: Syntheses of PVP embedded ZnO quantum dots and the investigation of their methanol sensing properties Nath S. S., Choudhury M., Nath R. K.	17
Proceedings	27
Synthesis and characterization of CdS Nanowires, and CdS/TIS Nanoflower Grown in a Polymer Matrix by Chemical Bath Deposition (CBD) Method Ezema F.I., Ezugwu S.C., Ekwealor A.B.C., Asogwa P.U., Osuji R.U.	27
Generation of mucinated cellulosic microfibers by mucin and microcrystalline cellulose hybridization; potentials for nanomedicine Adikwu M. U., Builders P. F., <sup>2</sup> Ezenwa P., Kunle O. O.	35
Report	51
Nanotechnology in Latin America Vega-Baudrit J.	51

[Please order to read full content](#)

## Editorial

Alternative nanoenergy as applied in energy, medicine, etc. is driving a lot of research to a new level never seen before. Solar cell works by absorbing energy from the sun therefore pulling moving holes and electrons in opposite directions, creating electricity. Semiconductors like silicon have their exciting electron energy corresponding to sunlight wavelength in the near infrared. These semiconductors as frequently used in solar cell have single material maximum efficiency of about 31% at a bandgap of 1.13 e.v. which nearly matches that of silicon of 1.1 ev.; the reason for common use of silicon in solar cell. As a result of this limitation, alternatives to silicon are being researched increasingly like using quantum dots because they don't share such limitations as in silicon which has a fixed bandgap. The energy level in quantum dots is dependent upon the size; the smaller the size, the higher the energy required to excite to the next level. So quantum dots can be tuned to various bandgaps and be made to absorb various wavelength of light. Solar cell built from various sizes of quantum dots can therefore have potential of unlimited efficiency. This type of solar cell can be made more effective with surface chemistry of anchoring polymer nanofilms which prevent recombination of holes and electrons with their better separation. Apart from this, quantum dot can find application as sensor. The use of renewable polyhydroxy compounds like cellulose and their various modifications for drug delivery vehicles is ever increasing and has great potential in nanomedicine. These are some of the issues being exploited in this issue of the journal among others. The journal still keeps to its high quality standard of publishing.

Editor-In-Chief

Dr. Ejembi John Onah

Professor of Chemistry, Nanoscience and Nanotechnology

President/CEO, Focus Nanotechnology Africa Inc. (FONAI)

Honorary Editorial Board Member:

1. Nobel Laureate Dr. Zur Hausen, Professor University of Heidelberg
2. Nobel Laureate Dr. Richard Ernst, Professor Swiss Federal Institute of Technology  
Zurich
3. Nobel Laureate Dr. Karl Barry Sharpless, Professor Scripps Institute USA
4. Nobel Laureate Dr. Mario R. Capecchi, Professor Howard Hughes Medical Institute,  
University of Utah School of Medicine.
5. Nobel Laureate Dr. Albert Fert, Professor University of Paris Sud in Orsay and  
Adjunct Professor at University of Michigan, USA.

Other members:

1. Dr. Harinder Missan, Professor, University of West Indies, Trinidad and Tobago,  
Caribbean

2. Dr. Malik Maaza, Professor, Ithemba Lab, Africa
3. Dr. David Hui, Professor, University of New Orleans, USA
4. Dr. Aldrin Sweeney, Professor, University of Central Florida, USA
5. Dr. El-Shall Samy, Professor, Virginia Commonwealth University, USA
6. Dr. Stanley Moffatt, Professor, Reagent University Accra, Africa
7. Dr. Ishenkumba Kahwa, Professor, University of West Indies, Caribbean,
8. Dr. Helen Asemota, Professor, University of West Indies Jamaica and Shaw  
University, USA and Caribbean
9. Dr. Sossina Haile, Professor, CALTECH, USA
10. Mr. Paul Iwezulu, Manager/Attorney UK, Europe
11. Dr. Mansoori, Professor University of Illinois Chicago, USA
12. Dr. Lubomir Lapcik, Professor, Thomas Bata University, Czech, Europe
13. Dr. Ajibefun; Professor, Federal University of Technology Akure, Africa
14. Dr. G. Egharevba, Professor, Obafemi Awolowo University, Ife, Africa
15. Dr. Anil Chaudhary, Professor, University of Hyderabad, India
16. Dr. Nelson Ocheke, Professor, University of Jos, Africa
17. Dr. José Vega Baudrit, Professor, National Laboratory of Nanotechnology, Costa Rica,
18. Dr. Jean Ebothe, Professor, University of Reims, France, Europe
19. Dr. Samuel Ugbolue, Professor, University of Massachusetts Dartmouth, USA
20. Dr. Yong Lak Jo, Professor, Cornell University, USA
21. Ex-Senate President, Ameh Ebutte, Africa
22. Dr. Zorkani Izzedine, Dhar Mehraz University, Morocco, Africa
23. Dr. Michael Adikwu, Professor UNN, Africa
24. Dr. David Wilson, Professor, Cornell University, USA
25. Dr. Eden Manut, Professor, Ovidius University, Constanza Romania, Europe
26. Dr. Benjamin Ezekoye, Professor, University of Nigeria, Nsukka, Africa
27. Dr. Charles Esimone, Professor, Nnamdi Azikiwe University, Awka, Africa
28. Dr. Anthony Attama, Professor, University of Nigeria, Nsukka, Africa
29. Dr. Mauricio Terrones, Professor, National Laboratory for Nanoscience and  
Nanotechnology, Mexico, South America
30. Dr. Fabian Ezema, Professor, University of Nigeria, Nsukka, Africa

31. Ex-Congressman Sherwood Boehlert, USA
32. Dr. Emma Smith, University of West Indies, Barbados
33. Dr. Lerwen Liu, NanoGlobe, Singapore
35. Dr. Joydeep Dutta, Asian Institute of Technology, Thailand