**Publications**

**2015 Publications**

* 1. “Asymmetric supercapacitor based on an α-MoO3 cathode and porous activated carbon anode materials”. F. Barzegar, A. Bello, D. Y. Momodu, J. K. Dangbegnon, F. Taghizadeh, M. J. Madito, T. M. Masikwa and **N. Manyala**, *RSC Adv*. 5, 37462 (2015)
	2. “Asymmetric supercapacitor based on nanostructured graphene foam/polyvinyl alcohol/formaldehyde and activated carbon electrodes”, A Bello, F Barzegar, D Momodu, J Dangbegnon, F Taghizadeh, M Fabiane and **N Manyala**, *J. Power Sources* **273**, 305 (2015).
	3. “Preparation and characterization of Poly(vinyl alcohol)/graphene nanofibers synthesized by electrospinning”, F Barzegar, A Bello, M Fabiane, S Khamlich, D Momodu, F Taghizadeh, J Dangbegnon and **N. Manyala**. *J. Phys. and Chem. Solids* **77**, 139 (2015).
	4. “P3HT:PCBM/nickel-aluminum layered double hydroxide-graphene foam composites for supercapacitor elecrodes”. D Momodu, A. Bello, J. Dangbegnon, F. Barzeger, M. Fabiane and **N. Manyala**. *J. Solid State Electrochemistry* **19**,445 - 452(2015).
	5. “Symmetric supercapacitors based on 3D interconnected carbon frame work”, A Bello, F Barzegar, D Momodu, J Dangbegnon, F Taghizadeh, and **N Manyala**. *Electrochemica Acta* **151**, 386 (2015).
	6. “Simonkolleite-graphene foam composites and their superior electrochemical performance”, D Momodu, F. Barzeger, A. Bello, J. Dangbegnon, T Masikhwa, J Madito and **N. Manyala**. *Electrochemica Acta* **151**, 591 (2015).
	7. “Microwave irradiation controls the manganese oxidation states of nanostructured (Li[Li02Mn0.52Ni0.13Co0.13Al0.02]O2) layered cathode materials for high-perfomance lithium ion betteries”, C J Jafta, K Raju, M K Mathe, **N Manyala,** and K I Ozoemena. *J. The Electrochemical Society* **162** (4), A768 (2015).
	8. “K-edge x-ray dischroism investigation of Fe1-xCoxSi: Experimental evidence for spin polarization crossover”, G. R. Hearne, G. Diguet, F. Baudelet, J. –P Itie and **N. Manyala**. *J. Magnetism and Magnetic Materials* **379**, 274 (2015).
	9. “Effect of substrate temperature on the structure and the metal insulator transition in pulsed laser deposited VO2 films on Soda lime glass”, A. Diallo, N. M. Ndiaye, B. D. Ngom, S. Khamlich, K. Talla, S. Ndiaye, **N. Manyala**, O. Nemraoui, R. Madjoe, A. C. Beye and M. Maaza. *J. Optics* 44 (1), 36 (2015)
	10. “Pulsed laser deposited Cr2O3 nanostructured thin film on graphene as anode material for lithium-ion batteries”, S. Khamlich, Z. Y. Nuru, A. Bello, M. Fabiane, J. K. Dangbegnon, **N. Manyala** and M. Maaza, *J. Alloys and compounds* 637 219 (2015).
1. **publications**
2. “Morphological characterization and impedance spectroscopy study of porous 3D carbons based on graphene foam-PVA/phenol-formaldehyde resin composite as an electrode material for supercapacitors”, A. Bello, F Barzegar, D Momodu, F. Taghizadeh, M fabiane J Dangbegnon and **N Manyala**, *RSC Adv.* **4,** 39066 (2014).
3. “Polypyrrole/graphene nanocomposites: High conductivity and low percolation threshold”, S Khamlich, F Barzegar, Z Y Nuru, J K dangbegnon, A Bello, B D Ngom, **N Manyala** and M Maaza, *Synthetic Metals* **198**, 101 – 106 (2014)
4. “Solvothermal synthesis of NiAl double hydroxide microspheres on a nickel foam-graphene as an electrode material for pseudo-capacitors”, D Momodu, A Bello, J Dangbegnon, F Barzegar, F. Taghizadeh, M. Fabiane, A. T. Johnson and **N. Manyala**, *AIP Advances* **4**, 097122 (2014).
5. “Competitive growth texture of pulsed laser deposited vanadium oxide nanostructures on a glass substrate”, B. D Ngom, M Chaker, IG Madiba, S Khamlich, **N Manyala**,O Nemraoui, R Madjoe, AC Beye, M Maaza, *Acta Materialia* **65,** 32 (2014).
6. “Functionalized graphene foam as electrode for improved electrochemical storage”. A. Bello, M. Fabiane, D. Y. Momodu, S. Khamlich, J. K. Dangbegnon and **N. Manyala**, *J. Solid State Electrochemistry* 18, 2359 (2014)
7. “Silver nanoparticles decorated on three dimensional graphene scaffold for electrochemical application”, A. Bello, M. Fabiane, D. Dodoo-Arhin, K.I. Ozoemena and **N. Manyala**, *J. Phys. Chem. Solids* **75**, 109 (2014).
8. “Surfactant assisted synthesis of copper oxide leaf-like nano-structures for electrochemical applications”, A. Bello, D. Dodoo-Arhin, K. Makgopa, M. Fabiane and **N. Manyala**, *American Journal of Materials Science* 4 (2), 64 (2014).
9. **publications**
10. “Chemical adsorption of NiO nanostructures on nickel foam-graphene for supercapacitor applications”, A. Bello, K Makgopa, M. Fabiane, D. Dodoo-Ahrin, K.I. Ozoemena and **N. Manyala**, *J. Materials Science* **48**, 6707 (2013)
11. “Growth of graphene underlayers by chemical vapour deposition”, M. Fabiane, S. Khamlich, A. Bello, J. Dangbegnon, D. Momodu, A T Charlie Johnson and **N. Manyala**, *AIP Advances* **3,** 112126 (2013).
12. “High-performance symmetric electrochemical capacitor based on graphene foam and nanostructured manganese oxide”, A. Bello, O. O. Fashedemi, J. N. Lekitima, M. Fabiane, D. Dodoo-Arhin, K. I. Ozeomena, Y. Gogotsi, A T Chalie Johnson and **N. Manyala**, *AIP Advances* **3**, 082118 (2013).
13. “Hydrothermal synthesis of Simonkoliete microplatelets on nickel-foam graphene for electrochemical supercapacitors”, S. Khamlish, A. Bello, M. Fabiane, B. D. Ngom, and **N. Manyala**,*. Solid State Electrochem*. **17**, 2879 (2013).
14. “Manganese oxide/graphene oxide composites for high-energy aqueous asymmetric electrochemical capacitor”, C. J. Jafta, F. Nkosi, L. le Roux, M. K. Mathe, M. kebede, K. Makgopa, Y. song, D. Tong, M. Oyama, **N. Manyala**, S. Chen and K. I. Ozoemena in Press in *Electrochimica Acta* 110, 228 (2013).
15. “Microwave assisted synthesis of MnO2 on nickel foam – graphene for electrochemical capacitor”, A. Bello, O. O Fashedemi, M. Fabiane, J. N. Lekitima, K. I. Ozoemena and **N. Manyala**, *Electrochimica Acta* **114**, 48 (2013).
16. “Graphene: Synthesis, transfer, and characterization for Dye-sensitized solar celss applications”, David Dodoo-Arhin, Mopeli Fabiane, Abdulhakeem Bello, and **N. Manyala**, *Ind. Eng. Chem. Res*. **52**, 14160 (2013).
17. “Microwave-assisted synthesis of high-voltage nanostructured LiMn1.5Ni0.5O4 Spinel: Tuning the Mn+3content and electrochemical performance”, C. J. Jarfta, M. K. Mathe, **N. Manyala**, W. D. Roos and K. I. Ozoemena, *ACS Applied Materials and Interfaces* **5**, 7592 (2013).
18. “Tuning electrolytic manganese dioxide for a high voltage aqueous asymmetric electrochemical capacitor”, C. J. Jafta, F. Nkosi, L. le Roux, M. K. Mathe, M. kebede, K. Makgopa, Y. song, D. Tong, M. Oyama, **N. Manyala**, and K. I. Ozoemena, *ESC Transactions* **50**, 93 (2013)
19. “Rheological behaviour and thermal properties of pitch/poly(vinyl chloride)

blends”, S. R. Hlatshwayo, W. W. Focke, S. Ramjee, B. Rand and **N. Manyala**, *Carbon* **51**, 64 (2013).

1. “Properties of graphite composites based on natural and synthetic graphite powders and phenolic novolac binder”, P. P. Magampa, **N. Manyala** and W. W. Focke, *J. Nuclear Materials*, **436**, 76 (2013)
2. **publications**
3. “Low-field microwave absorption in pulse laser deposited FeSi thin films”, H.Gavi, B. D. Ngom, A. C. Beye, A. M. Strydom, V. V. Srinivasu, M. Chaker and **N. Manyala**, *J. Magnetism and Magnetic Materials*, **324,** 1172 (2012)
4. “Simonkolleite nan-platelets: Synthesis and temperature effect on hydrogen gas sensing properties”, J. Sithole, B. D. Ngom, S. Khamlich, **N. Manyala**, M.I. Saboungi, D. Knoessen, R. Nemutudi and M. Maaza, *Applied Surface Science* **258**, 7839 (2012).
5. “Characterization of medium-temperature Sasol-Lurgi gasifier coal tar pitch”, Gedion Papole, Walter W Focke and **N. Manyala**, *Fuel* **98**, 243 (2012)
6. **publications**
7. “Pressure-induced quantum phase transition in Fe1-xCoxSi (x = 0.1, 0.2)”: M. K. Forthaus, G. R. Hearne, **N. Manyala**, O. Heyer, R. A. Brand, D. I. Khomskii, T Lorentz and M. M. Abd-Elmeguid, *Phys. Rev*. B **83,** 085101 (2011).
8. “Influence of Plasma dynamics on the growth of Sm0.55Nd0.45NiO3 solid solution during pulsed laser deposition”: B. D. Ngom, A. Dioum, **N. Manyala**, S. Abdelli- Messaci, R. T. Kerdja, R. Madjoe, R. Nenutudi, M. Maaza and A. C. Beye, *J. Phys and Chem. Solids* **72**,1218 (2011).
9. “Temperature-dependent growth mode of W-doped ZnO nanostructures”: B. D. Ngom, M. Chaker, **N. Manyala**, B. Lo, M. Maaza and A. C. Beye, *Applied Surface* **257***,* 6226(2011)
10. “Photon-induced and reversible wettability of pulsed laser deposited W-doped ZnO nanorods”: B. D. Ngom, O. Sakho, S. Ndiaye, R. Bartali, A. Diallo, M. B. Gaye, S Bady, **N. Manyala**, M. Maaza and A. C. Beye, *Eur. Phys. J. Appl. Phys.* **55** 20501(2011).
11. **publications**
12. “Structural evolution and epitaxial stabilization of pulsed laser deposited Sm0.55Nd0.45NiO3 solid solution nano-structured films on undoped Si (100) and NdGaO3 substrates”: B. D. Ngom, R. Madjoe, S. Fall, J. B. Kana Kana, **N. Manyala**, A. Forbes, R. Nemutudi, A. Y. Fasasi, M Maaza and A. C. Beye, *J. Phys. and Chem. Solids* **71**, 722 (2010).
13. “Thermochromic nanocrystalline Au-VO2 composite thin films prepared by radiofrequency inverted cylindrical magnetron sputtering”: J. B. Kana Kana, J. M. Ndjaka, B. D. Ngom, **N. Manyala**, O. Nemraoui, A. Y. Fasasi, R. Nemuduti, A. Gibaud, D. Knoesen and M. Maaza, *Thin Solid Films* **518**, 1641 (2010).
14. **publications**
15. “Structural and magnetic properties of ε-Fe1-xCoxSi thin films via pulsed laser deposition (PLD)”: **N. Manyala**, B. D. Ngom, A. C. Beye, R. Bucher, M Maaza, A. Strydom, A. Forbes, A. T. Johnson and J. F. DiTusa, *Applied Physics Letters* **94**, 232503 (2009).
16. “Structural and optical properties of nano-structured tungsten-doped ZnO thin films grown by pulsed laser deposition”: B. D. Ngom, T. Mpahane, **N Manyala**, O. Nemraoui, U. Buttner, J. B. Kana Kana, A. Y. Fasasi, M Maaza and A. C. Beye, *Applied Surface Science* **255**, 4153 (2009).
17. “Structural, morphological and photoluminescence properties of W-doped ZnO nano-structures”: B. D. Ngom, O. Sakho, **N. Manyala**, J. B. Kana Kana, N. Nkosi, L. Gerbous, A. Y. Fasasi, M. Maaza and A. C. Beye, *Applied Surface Science* **255**, 7314 (2009).
18. “Nonlinear optical absorption properties of porphyrins confined in Nafion membrane”: Girma Hailu, Genene Tessema, Balla, D. Ngom, **Ncholu Manyala**, and Malik Maaza, *Applied Physics A Materials Science and Processing* **96**, 685 (2009)
19. **publications**
20. “Doping a semiconductor to create an unconventional metal”: **N. Manyala**, J. F. DiTusa, G. Aeppli, and A. P. Ramirez, *Nature* **454**, 976 (2008).
21. “Pulsed laser liquid solid interaction synthesis of Pt, Au, Ag, and Cu nano- suspension and their stability”: M. Maaza, H. C. Chambalo, S. Ekambaram. O. Nemraoui, B. D. Ngom and **N. Manyala**, *Int. J. Nanoparticles* **1**, 122 (2008).
22. “Thermochromic VO2 thin films synthesized by RF-inverted cylindrical magnetron sputtering”: J. B. Kana Kana, J. M. Ndjaka, P. Owono Ateba, B. D. Ngom, O. Nemraoui, **N. Manyala**, A. C. Beye and M. Maaza, *Applied Surface Science* **254**, 3959 (2008).
23. “Combined thermochromic and plasmonic: Optical responses in novel nanocomposite Au-VO2 films prepared by RF inverted cylindrical nagnetron sputtering”, J B Kana Kana, J M Ndjaka, **N Manyala**, O Nemraoui, A C Beye and M Maaza, AIP Conf. Proc. 1047, 119 (2008).
24. “Characterization of Fe1-xCoxSi thin film deposited via pulsed laser deposition”, **N Manyala**, B Ngom, J B Kana Kana, R Bucher, M Maaza and J F DiTusa, AIP Conf. Proc. 1047, 127 (2008).
25. “Infrared active-Sm1-xNdxNiO3 based nano-switching for high powers laser sources”, B D Ngom, J B Kana Kana, O Nemraoui, **N Manyala**, M Maaza, R Madjoe and A C Beye, AIP Conf. Proc. 1047, 280 (2008).
26. **publication**
27. “Large anomalous Hall effect in silicon-based magnetic semiconductor”: **N. Manyala**, Y. Sidis, J. F. DiTusa, G. Aeppli, D. P. Young, and Z. Fisk, *Nature Materials* **3**, 255 (2004).

**2000 Publications**

1. “Magnetoresistance from quantum interference effects in ferromagnets”: **N. Manyala**, Y. Sidis, J. F. DiTusa, G. Aeppli, D. P. Young, and Z. Fisk, *Nature* **404**, 581 (2000).
2. “Addentum: Magnetoresistance from quantum interference effects in ferromagnets”, **N. Manyala**, Y. Sidis, J. F. DiTusa, G. Aeppli, D. P. Young, and Z. Fisk, *Nature* **404**, 616 (2000).