Professor S.B.Dwivedi, Ph.D.(BHU)

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Distinctions/Prize/Medal/Award/Honours

(1) BHU Research Fellowship (ii) SRF (CSIR) New Delhi (iii) RA (CSIR) (iv) DST

Young Scientist Project (v) Pool Officer (CSIR) (BHU), July 2012- Sept 2014

Research projects Completed

1. Qualitative and quantitative evaluation of metamorphites hosted base metal / transition

metal (Pb, Zn, Cu, Fe, Mn, Ni, Ag and Co) mineralization and its impact on groundwater

and its chemistry in the area around Wikro, Negash and Hawzen, Tigrai province,

Northern Ethiopia. As Co-Pi (World Bank)

2. Hydrochemistry of the Volcanic rocks aquifers in Maichew area, Tigray region, Northern

Ethiopia. As Co-Pi (World Bank)

3. "P-T path and geodynamic evolution of amphibolite to granulite facies rocks of the

Meghalaya Plateau, Meghalaya"

4 " Crop -signature studies by Microwave Remote Sensing with soft computing

Techniques" Sprouting grants for faculty, IIT (BHU) Rs.25 lakh

LIST OF PUBLICATIONS

Paper published in Reputed Journal

- 1. Sindhusuta and **Dwivedi S.B.** (2015) Geotechnical Evaluation of Vindhyan Sandstone International Journal of Advances in Earth Sciences vol.4 pp.8-18
- 2.MS Chauhan, PKS Dikshit, **Dwivedi S.B.** (2015) Modeling of Discharge Distribution in Bend of Ganga River at Varanasi *Computational Water, Energy, and Environmental Engineering*, Vol.**4**, pp.25-37.
- 3.Singh S.P. and <u>Dwivedi S.B. (2015)</u> High Grade Metamorphism in the Bundelkhand Massif and Its Implications on Mesoarchean Crustal Evolution in Central India, Journal of Earth System Science (Springer) Vol.124 No.1,PP. 197-211
- 4.DK Gupta, P Kumar, VN Mishra, R Prasad, PKS Dikshit, **Dwivedi,S.B, (2015)** Bistatic measurements for the estimation of rice crop variables using artificial neural network Advances in Space Research (Elsevier) Vol.55, No.6 pp1613-1623
- 5.Manvendra Singh Chauhan, Vikram Kumar, P. K. S.Dikshit and Dwivedi, S.B. (2014): Comparison of Discharge Data Using ADCP and Current Meter International Journal of Advances in Earth Sciences Vol.2, Issue2 pp 81-86
- 6Singh S.P.,Srivatava,A.K.,Kumar,G and Dwivedi,S.B.(2013) Metamorphic evolution of contact aureole of the Jhirgadandi pluton,Sonbhadara district, Mahakoshal mobile belt,Central India, Journal of Earth System Science(Springer)v. 122, no.3, pp 743-757
- 7. Dwivedi, S.B. and K.Thenuo (2013) Petrology and Geochemistry of Metapelites and basic granulites from Sonapahar Region of Shillong Meghalaya Gneissic Complex,Nort h east India. Journal Geological Society of India (Springer) V.81 pp.755-766.

- 8.Narayan, K., Dikshit, P.K.S. and Dwivedi, S.B. (2012) GIS supported geomoephologic instantaneous unit Hydrograph (GIUH) of Varuna river basin using geomorphological characteristic. International Journal of Advances in Earth Sciences Vol.1 pp.68-76.
- 9. Dwivedi, S.B. and K.Thenuo (2012) Petrogenetic evolution of the basic granulites of the Sonapahar, West Khasi Hills District, Meghalaya International Journal of Advances in Earth Sciences Vol..1 pp 1-5
- 10. Lal,S.N., Prakash, D. and Dwivedi S.B. (2012) A computer program for estimation of pressure condition in metamorphic rocks: Thermodynamic basis and uncertainties. International Journal of Basic and Applied Sciences Vol.1 No.1 pp.38-44
- 11. Dwivedi ,S.B. and K.Thenuo (2011) Two-Pyroxene mafic granulites from Patharkhang,Shillong-Meghalaya,Gneissic Complex. Current Science Vol.100, pp 100-105
- 12. Dwivedi, S.B. (2011) Geodynamic evolution of Mesoproterozoic granulites of Meghalaya: evident from geothermobarometry, P-T path and P-T pseudosection Memoir Geological Society of India No.77, pp85-101.
- 13.Lal ,S.N.,Manju Pandey,**Dwivedi,S.B.** and Prakash D.(2011) Petrology and Geochemistry of amphibolites and its implications on geodynamic evolution of Central Crystalline zone of Kumaun Himalaya, India .Geol Soc.Memoir No. 77 pp 65-85
- 14. Paramakusam, B.R., Srivastava, R.K. and Dwivedi, S. B.(2010) Experimental Studies on Heavy Metal Extraction from Contaminated Soil Using Ammonium Citrate as Alkaline Chelate during the Electrokinetic Journal. Hazard. Toxic Radioactive Waste (ASCE) Vol. 15, pp.296-304
- **15. Dwivedi, S.B.,** Ashutosh Kumar and Singh, S.P. (**2010**) Granulites of Meghalaya and its petrological correlation with Central Indian granulites of

- Chhotanagpur and Bundelkhand. Journal of Economic Geology and Georesource Management Vol.7pp152-167
- **16.**Singh,S.P.and **Dwivedi,S.B.**(2009) Garnet-Sillimanite-cordierite-quartz bearing assemblages from early Archean Supracrustal rocks of Bundelkhand Massif,Central India. Current Science. Vol.97 pp103-107.
- 17. Dwivedi,S.B and Jimmy,L.(2008) Mineral Chemisty and P-T conditions of

 Metamorphism of Leptynite from the area around North –East of

 Dumka, Jharkhand Journal of Applied Geochemistry Vol.10, pp 51-59
- **18. Dwivedi,S.B,** Jimmy,L.,Vanthangliana,V, and Lal S.N. (**2007**): Refined Garnet-Biotite thermometer: Constrainsts from empirically derived Margules parameters for garnet and Biotite, The Indian Mineralogist Vol.41 pp 97-111
- 19.**Dwivedi,S.B.,**Lal,S.N. and Pandey,M., 2006: The stability of dehydration equilibria involving annite, ferrosilite, sanidinite, quartz and H₂O in KFASH system and its application as hygrometer on charnockites. **Indian journal of Geochemistry Vol.21 pp. 58-67**
- 20. Lal, S.N, Dwivedi, S.B., and Pandey,M. 2006. Metamorphic evolution of sapphirine granulites from Anakapalle, Eastern Ghats Granulite Belt, India. Indian Journal of Geochemistry Vol.21 pp. 10-22
- 21. Kuster,D,_Dwivedi,S.B.,.Kurkura,K, Mehari, K and Matheis,G (2005): Petrogenetic reconnaissance investigation of mafic sills associated with flood basalts, Mekelle basin, northern Ethiopia: implication for Ni-CU exploration.

 Journal of Geochemical Exploration (Elsevier)Vol.85 pp 63-79.
- 22.. Kuster,D.,_**Dwivedi,S.B.,** Kurkura,K and Mehari, K (2003): Chalcophile element depletion in mafic sills of the Mekelle basin, Tigrai: a guide to Ni-Cu-PGE exploration in the Ethiopian flood basalt province. **Mineral**

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- 23. **Dwivedi, S. B.** (1999): Gedrite bearing garnet cordierite- hypersthene mineral mineral parageneses from the south-west of Daltonganj, Chhotanagpur granite-granulite gneiss complex, Bihar . **Proceeding for International** conference on granulites and Charnockites, Madras, India pp 20-32.
- 24. Dwivedi,S.B.,Mohan,A, and Lal,R.K.(1998): Recalibration of Fe-Mg exchange reaction between garnet and cordierite as a thermometer. European Journal of Mineralogy V.10, pp. 281-289.
- 25. Dwivedi,S.B. (1998): Oxygen fugacity (fO₂) during metamorphism of granulites of the area around Daltonganj,western Chhotanagpur,Bihar. Indian Mineralogist V.30 pp. 20-22.
- 26. **Dwivedi,S.B.**,Mohan,A. and Lal,R.K. (1997): Internally consistent geothermo barometers in the system FeO-MgO-Al₂O₃-SiO₂-H₂O involving garnet, cordierite,aluminosilicate and quartz and their application to metapelites. **Journal Geological Society of India,V.49, pp 647-660.**
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 - **28**. Prakash,D and **Dwivedi,S.B.** (1994): Ocean- A future potential Resources Reservoir. Everyman Science Vol.29,No.4 pp.109-114.
 - 29. Dwivedi,S.B.,Singh,T.N. and Prakash,D. (1993): Precambrian metamorphites of the area around Kandra,district Singhbhum,Bihar. Indian Journal of Engineers, Vol.23, No.1&2 pp. 195-206.
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Full Papers in Conference Proceedings and Edited Volume

- 31.V. N. Mishra, R. Prasad, P. Kumar, D.K.Gupta, P. K. S. Dikshit, Dwivedi S.B., R.S.Singh, V.Srivastava (2015): Supervised Algorithms for Classification of Remotely Sensed SatelliteImage using Open Source Support, Proceeding Natinal Conference on Open Source GIS: Oppourtunity and challenges (OSGIS-2015) Oct.9-10 pp. 126-133.
- 32.Kailash Narayan , S. Madhvi Singh , P. K. S. Dikshit ,. **Dwivedi S. B.** (2015) Planning proposed for Varuna River Watershed using Remote Sensing and GIS Applications Proceeding Natinal Conference on Open Source GIS: Oppourtunity and challenges (OSGIS-2015) Oct.9-10 pp. 142-149.
- 33.Narayan,K.,Dikshit,P.K.S. and **Dwivedi,S.B**.(2013) Geomprphological characteristics of Varuna watershed using GIS and remote sensing Technique. 2nd International conference on Emerging trends in Engineering & Technology, April 12-13,2013 College of Engineering Treethankar Mahavir University. Pp.1-6.
- 34. Mishra Umank, Pandey, K.K. and **Dwivedi, S.B. (2011)** Forecasting of ground water level of Sigma Tehsil Raipur district, chhatishgarh Using Artificial Neural Network.) Proceeding National Conference on Recent advances in Civil Engineering, RACE-2011, IT, BHU pp590-597
- 35. Kumar,R. Jain,H. and **Dwivedi,S.B.(2011)**Channel and cored unit for roofing /flooring for low cost housing: A review . Proceeding National Conference on Recent advances in Civil Engineering,RACE-2011,IT,BHU pp..294-298
- 36. **Dwivedi ,S.B. and K.Thenuo (2011)** Average P-T estimate and mineral chemistry of the two pyroxene bearing granulites from Sonapahar west Kashi Hills District, Meghalaya, Proceeding National Conference on Recent advances in Civil Engineering, RACE-2011, IT, BHU pp. 349-354

- 37. Lal,S.N. and Dwivedi,S.B. (2011)Paleolake valleys of Kumaun Lesser Himalaya: Potential source of Drinking water. Proceeding of the National Conference on groundwater for drinking: issues and options,Feb.11-13, 2011, Department of Civil Engineering, Institute of Technology,BHU,Varanasi-221005 (2011)pp 186-191
- 38.**Dwivedi,S.B. and** Pandey,K.K. (2011) Multivariate analyses and its application to derive Margules arameters for $Garnet(\Delta W_{Ca} \& \Delta W_{Mn})$ and biotite $(\Delta W_{Al}\&\Delta W_{Ti})$ and its implication in Mg-Fe exchange Garnet-Biotite thermometer (Proceeding National Conference on Mathematical Modeling and Computer Simulation MMCS 2011, March 25- 27, 2011, Department of Applied Mathematics, Institute of Technology, BHU, Varanasi- 221005,pp.32-36
- 39. Theunuo. K. and **Dwivedi, S.B.** (2011) Earthquake its terminologies and seismic zone of India: A review Proceeding All India Biennial Civil Engineering conference on Advances in Civil engineering April 1- 3 2011 pp 80-94
- 40. Hussain, M.F., **Dwivedi, S.B.** and Mondal M.E.A (2009) Chalcophile element characteristic in mafic dykes from central and northeastern parts of Bastar craton: A guide to Ni-Cu-PGE Mineralization. Macmillan Advanced Reserch Series Edited by Santosh Kumar Magmatism, Tectonism and Minearlization Pp. 312-321

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- 41. **Dwivedi, S. B. and Theunuo,K.** (2012) Petrogenetic evolution of Mesoproterozoic granulites of Meghalaya: Evident from Geochemistry, Geothermobarometry,P-T path and P-T Pseudosection. National Seminar on Geology and Geo-resources of Himalaya and Cratonic Regions of India (GGHCRI-2012) March 10th to 12th,2012 pp.92-93
- 42.**Dwivedi, S. B. and Theunuo,K.** (2012) Trace element and REE Geochemistry of granulite from Sonapahar region of shillong Meghalaya Gneissic Complex(SMGC),Meghalaya National Seminar on Recent Advances and future Challenges in Geochemistry and Geophysics: the Indian Scenario,

- Feb.,22-24,2012, Department of Geology, BHU, p.103.
- 43. **Dwivedi, S. B. and Theunuo,K.** (2011) Precambrian Granulites of Shillong Meghalaya Gneissic Complex (SMGC) and its implication on crustal evolution of Northeastern India. International Symposium on "Precambrian Accretionary Orogens and Field Workshop in the Dharwar Craton Southern India, 2-11 Feb.,2011,University of delhi,Delhi and Geological society of India, Bangalore pp.23-24
- 44. **Dwivedi,S. B.** and Theunuo,K. (2010) Geodynamic evolution of Mesoproterozoic correlation granulite Meghalaya and its petrological Mesoproterozoic Central Indian granulites of Chhotanagpur and Bundelkhand. National Symposium on "Geology and Mineral Resources of Bundelkhand Craton (GMRB-2010) .08-10 Ocotober-2010, Department of Geology, Institute of Earth Sciences, Bundelkhand University, Jhansi-284128
- 45. .Dwivedi, S. B. (2009): Tectonism Metamorphic Evolution of Mesoproterozoic Granulites of the Area Around Sonapahar, West Kashi Hills District, Meghalaya, India,2nd Precambrian Continental Growth and Tectonism, February 24–28, 2009 pp 124-125
- 46. Dwivedi S. B. and Singh, B.N. (2009) Metamorphic Evolution of the Granulites from the AreaAround NE of Dumka, Jharkhand, 2nd Precambrian Continental Growth and Tectonism, February 24–28, pp. 125-126.
- 47. .Dwivedi **S. B.** (2009): Mesoproterozoic granulites of the Sonapahar, Meghalaya.

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- 48.. **Dwivedi,S.B.** (2006): Empirically derived non-ideal Margules parameters for garnet and biotite and its application as thermometers. National seminar on "Origin and evolution of the deep Continental crust" Department of Geology, Pune University 13-14 Oct.2006 P. 34
- 49. **Dwivedi,S.B.** (2006): A refined recalibration of Mg-Fe exchange for garnet-biotite geothermometer. Natinal Seminar on Active and Fossil Suture Zones and Annual Gneral Meeting of The Geological Society of India, Wadia Institute of Himalayan Geology Dehradun
- 50. Kuster, D., Dwivedi, S.B., Kurkura, K., and Mehari, K. (2004): Petrogenetic reconnaissance exploration for magmatic sulphide mineralisation (Ni-Cu-PGE) of flood basalt related mafic sills, Mekelle area, northern Ethiopia.
 20th colloquim of African Geology-Orleans, France-2-7 June 2004, Abstract volume P.245 http://cag20.brgm.fr
- 51. .Kuster,D., **Dwivedi,S.B.,** Kurkura,K., and Mehari,K. (2003): Exploring the Ni-Cu-PGE potential of the Ethiopian flood basalt province: implications from chalcophile element depletion in mafic sills of the Mekelle basi(Tigrai).4th **EGMA congress, Addis Ababa, Ethiopia pp. 44-45**
- 52. Dwivedi,S.B.(2003): Metamorphites hosted base/transition metal of the area around Negas, Tigrai Province, Northern Ethiopia. 4th EGMA congress, Addis Ababa, Ethiopia pp. 46-47
- 53. Kuster, D., **Dwivedi, S.B.**, Kurkura, K., and Mehari, K. (2002): Petrograophic and geochemical reconnaissance study of doleritic sills from the Mekelle sedimentary basin, Tigray. IAG Symposium proceedings Addis ababa (Ethiopia) p.72
- 54. **Dwivedi,S.B**.(1997) Evolution of granulites of the area around Daltonganj,western Chhotanagpur,Bihar. National Seminar "Precambrian 97" Udaipur p.5
- 55. **Dwivedi.,S.B.** (1996): Fug.bas: A computer program for calculation of fugacity of water and carbon dioxide (f_{H2O} & f_{CO2}) at desired pressure and

temperature. National Symposium on Recent Researches in Sedimentary Basins and XIII convention of IAS,pp. B6.4-B6.6.

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- 59.. **Dwivedi,S.B.**(1992): Precambrian metamorphites of the area around Kandra, district Singhbhum, Bihar. Proc. 79th Session of ISCA p.11.

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