

DR. HUKAM SINGH

Scientist 'C'

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Field of specialization: Vertebrate Paleontology

Education:

- **M.Sc. Ph.D** HNB Garhwal University Srinagar Garhwal Uttarakhand, India.
- **Ph.D. in Geology** 2005 from HNBGU Srinagar Garhwal Uttarakhand, India.
- **Ph.D. thesis title:** Early Tertiary vertebrate fauna from Barmer Basin, western Rajasthan, India and their palaeoenvironmental implications.
- **Thesis supervisor:** Professor R.S. Rana, HNBGU Srinagar Garhwal Uttarakhand, India.
- **Research Interest:** Multidisciplinary field research.
- **Research work done:** Cambay Basin Surat Gujarat, Barmer, Bikaner, Nagaur and Jaisalmer Basin Rajasthan and Darjeeling District, West Bengal regions.
- **Field Experience:** Tertiary Palaeontology Palaeobotany including amber insects
- **Official address:** Birbal Sahni Institute of Palaeobotany, 53 University Road Lucknow.
- **Phone:** +91(522) 274930 (Office), **Fax:** +91(522) 2740485 (Office), **Mobile:** 9919401173.
- **Residential address:** House No. 610/1828, Keshav Nagar, Sitapur Road, Lucknow

Research Interest

About 12 years research experience in the field of Palaeontology (vertebrates), arthropods (amber embedded insects) and palaeobotany (mega and micro plant fossils) of the sequences associated with Rajasthan (Barmer, Bikaner, Nagaur) Basin and Cambay (Surat) Basin Gujarat, India. I have studied the Tertiary vertebrates, invertebrates, teredolite ichnofossils, amber embedded insects including mega and micro plant fossils from different localities of Rajasthan and Gujarat province and made significant contribution to the Biogeography, stratigraphy, palaeoecology, palaeoenvironment, age and phytogeography of the Tertiary sequences of Rajasthan as well Gujarat sedimentary Basin. In addition to the aforementioned contribution, I have to my credit the first reporting of Dipterocarp fossil from Early Eocene of Cambay basin. I have reported various kinds of amber embedded faunal and floral remains for the first time from Cambay basin Gujarat, India. Some of the new shark assemblages (species) were reported for the first time in the Indian subcontinent from Barmer, Jaisalmer Basin Rajasthan and Cambay Basin of Gujarat. One of the biogeographically significant contribution of my work is the finding of fossil bat record which dates back to Early Eocene. I have been working on the multidisciplinary research in Cambay basin which has attracted well reputed international scientists from diverse field. The contribution of the conglomerate of these scientists has brought out exciting findings and the research is ongoing.

- **Project area:** At present working under the Institute project (5.2) Palynological investigation facies analysis and palaeoenvironmental interpretations of Palaeocene-Eocene sediment in Rajasthan Basin. International Collaboration with well reputed scientists from India, US, and Germany is still continued in Cambay Basin Surat, Gujarat.

Awards/Prize/Certificate etc:

- **Received most cited research paper certificate from the editor:** International Journal “*Acta Palaeontologica Polonica*” on the discovery of diverse snake fauna from the Early Eocene of Vastan Lignite mine Surat, Gujarat, India.

International Collaborative Research Experience

1. Worked in International Collaboration with **National Geographic** team India, US and Belgium.
2. International Collaborative research on **amber** is in progress with International well reputed scientists from India, US and Germany.
3. National Collaboration with the scientist **Wadia Institute of Himalayan Geology** Dehradun and Inter institutional Scientist **BSIP**, Lucknow is still continued.

Field workshop: Attended International field workshop at Vastan Surat, Gujarat. Participated in the field workshop (17th to 19th January, 2012) and is organized by (PSI) Department of Geology, University Lucknow.

Professional Membership

Life member of the ‘Journal Palaeontological Society of India’ Lucknow.

- **Project work experience:** Worked as Project Fellow/Senior Research Fellow in DST sponsored project from Barmer District, western Rajasthan during my Ph.D.

Published/ in-Press Research Papers (36)

(♣) indicates peer reviewed National/International (Impact factor) Journals:

[1]. Mahesh, Prasad. **Hukam Singh and Sanjai K. Singh, (2013)**. Middle Miocene palynoflora from the Lower Siwalik sediments of Darjeeling District, West Bengal and their palaeoenvironmental implications. *Himalayan Geology*. Vol. 34 (1), 9-17.

[2]. ♣Jaime Ortega-Blanco, **Hukam Singh and Michael S. Engel (2012)**. First amber fossil Rhysipolini (Hymenoptera: Braconidae): A new genus and species in Early Eocene Cambay amber. *Acta Entomologica Musei Nationalis Prage*. Vol. 52 (2), 585-594. **Impact Factor : 7.**

[3]. ♣Eva-Maria Sadowski, Christina Bemforde, Matthias Gube, Jouko Rikkinen, **Hukam Singh**, Leyla J. Seyfullah, Jochen Heinrichs, Paul C. Nascimbene, Joachim Reitner, Alexander R. Schmidt. (2012). The anamorphic genus *Montosporella* (*Ascomycota*) from Eocene amber and from modern Agathis resin. *Fungal Biology*. 116, 1099-1110. **Impact Factor : 3.**

[4]. ♣Grimaldi and **Hukam Singh** (2012). The extinct Genus *Pareuthychaeta* in Eocene Ambers (*Diptera : Schizophora : Ephydroidea*) *Canadian Entomologist*. Vol. 144, pp.17-28 **Impact Factor : .69.**

[5]. ♣Christina Beimforde, Nadine Schäfer, Heinrich Dörfelt, Paul C. Nascimbene, **Hukam Singh**, Jochen Heinrichs, Joachim Reitner, Rajendra S. Rana and Alexander R. Schmidt (2011). Ectomycorrhizas from a Lower Eocene angiosperm forest. *New Phytologist*. 192: 988-996. **Impact Factor : 7.**

[6]. ♣Michael S. Engel, David A. Grimaldi, Paul, C. Nascimbene and **Hukam Singh** (2011). The termites Early Eocene Cambay amber, with the earliest record of the Termitidae (Isoptera). *Zookeys*. 148: 105-123. **Impact Factor : 1.2**

[7]. ♣Michael S. Engel, David A. Grimaldi, **Hukam Singh**, Paul C. Nascimbene (2011). Webspinners in Early Eocene amber from western India (Insecta, Embiodea). *ZooKeys*. 148: 197-208. **Impact Factor : 1.2**

[8]. ♣Jes Rust, **Hukam Singh**, R.S.Rana, Tom McCann, Ken, Lacham Singh, Ken Anderson, Nivedita Sarkar, Paul C. Nascimbene, Frauke Stebner, Jennifer C. Thomas, Monica Solorzano Kraemer, Christopher J.. Williams, Michael S. Engel, Ashok Sahni and David Grimaldi (2010) Biogeographic and evolutionary implications of a Diverse Palaeobiota in Amber from the Early Eocene of India. *Proc. Natl. Acad. Sci. USA* Vol. 107, No. 43. pp.1-6. **Impact Factor : 10.**

[9]. **Hukam Singh** and Tripathi SKM (2010). Fungal remains from the Early Palaeogene subsurface sediments of Barkha, Barmer, Western Rajasthan, India. *Geophytology* 39 (1-2) 9-15.

[10]. ♣**Hukam, Singh. Prasad, M. Kumar, K. Singh, S.K. (2011).** Paleobotanical remains from the Paleocene-Lower Eocene Vagadkhol Formation, western India, and their paleoclimatic and phytogeographic implications. *Palaeoworld* 20: 332-356).

[11]. ♣**Kishor Kumar, Hukam Singh and R.S. Rana (2011)** *Ichnospecies Teredolites longissimus* and the associated teredinid body fossils from the Early Eocene of India. *Ichnos*. 18: 2, 57-71. **Impact Factor : .9**

[12]. ♣**Hukam , Singh. Prasad, M. Kumar, K. Rana, R.S. and Singh, S.K. (2010).** Fossil fruits from Early Eocene Vastan Lignite, Gujarat, India : taphonomic and phytogeographic implications. *Curr. Sci.* Vol. 98, 12: 1625- 1632. **Impact Factor : .8**

[13]. **Guleria, J .S. Sahni, A. Shukla, A. and Hukam, Singh. (2009)** A Teredolites infested wood from the Lower Eocene sediments of the Vastan Lignite mine of Gujarat, Western India. *The Palaeobotanist* 58 (1-3) : 93-99.

[14]. ♣**Rage, J.C., Folie, A., Rana, R.S., Singh, H., Rose,K.D., and Smith, T. (2008)** A diverse snake fauna from the early Eocene of Vastan Lignite mine, Gujarat, India. *Acta. Palaeontologica Polonica* 53, (3) : 391-403. **Impact Factor : 1.94**

[15]. ♣**Smith, T., Rana, R.S., Missien, P., Rose, K.D., Sahni, A., Hukam Singh and Lachham Singh (2007).** High bat (Chiroptera) diversity in the Early Eocene of India. *Naturwissenschaften* 94, 1003-1009. **Impact Factor : 2.25**

[16]. ♣**Rana, R.S., Kumar, K., Escarguel, G., Sahni, A., Rose, K.D., Smith, T., Hukam Singh and Lachham Singh (2008).** An ailuravine rodent from the Lower Eocene Cambay Formation at Vastan, western India, and its palaeobiogeographic implications *Acta . Palaeont.Polonica.* 53, (1) : 1-14. **Impact Factor : 1.94**

[17]. **Srivastava, D.K., Rana, R.S., and Hukam Singh (2008).** Record of Megapneustes Gauthier (Brissid echinoid) from the Khuiala Formation, Jaisalmer district, Rajasthan, India. *Jour. Palaeo. Soci. India* 53, (1) : 31-36.

[18]. **Srivastava, D.K and Hukam Singh (2008).** Brissid echinoid Eupatagus L. Agassiz, 1847 from the Khuiala Formation, Jaisalmer district, Rajasthan, India. *Earth Science India.* 1, (ii) : 83-91.

[19]. ♣Kumar, K., Rana, R.S., and Hukam, Singh (2007). The fishes of the Khuiala formation (Early Eocene) of the Jaisalmer Basin, western Rajasthan India . *Curr. Sci. Vol. 93.* (4) 553-557. **Impact Factor : .8**

[20]. Sahni, A., Saraswati, P.K., Rana, R.S., Kumar, K., Hukam, Singh. Alimohmmadian, H., Sahni, N., Rose, K.D., Singh, L., and Smith, T., (2006). Temporal Constraints and Depositional environments of the Vastan Lignite sequence, Gujarat : analogy for the Cambay Shale Hydrocarbon source rock. *Ind. Jour. Petro. Geol. Vol.15* (1): 1-20.

[21]. ♣Rose, K.D., Smith, T., Rana, R.S., Sahni, A., and Hukam, Singh (2006) . Early Eocene (Ypresian) continental Vertebrate assemblage from India, with description of new anthracobunid (Mammalia, Tethytheria). *Verte. Palaeont. (U.S.A.)* 26 (1): 219-225. **Impact Factor : 2.24**

[22]. ♣Nolf, D., Rana, R.S., and Hukam Singh (2006). Fish Otoliths from the Ypresian (Early Eocene) of Vastan Gujarat, India. *Bulletine de l'inst royal des sciences naturelles de belgique, sciences de la Terre.* 76, 105-118.

[23]. ♣Rana, R.S., Kumar, K., Loyal, R.S., Sahni, A., Rose, K.D., Mussell, J., Hukam, Singh., and Kulshreshtha, S.K., (2006). Selachians from the Early Eocene Kapurdi formation. (Fuller's Earth), Barmer District, Rajasthan, India. *Geol. Soc. India. Vol. 67,* 509-522. **Impact Factor : .4**

[24]. Rana, R. S., Kumar, K., and Hukam Singh (2006). Palaeocene Vertebrate fauna from the Fatehgarh Formation of Barmer District, Rajasthan, Western India. Sinha, D.K. (Ed.), *Micropalaeontology: Application in Stratigraphy and Palaeoceanography*, Narosa Publishing House, New Delhi. Pp.113-130.

[25]. ♣Rana, R.S., Kumar, K., Hukam Singh and Rose, K.D., (2005). Lower vertebrates from the late palaeocene-Earliest Eocene Akli formation, Giral Lignite mine, Barmer District, Western India. *Curr. Sci.* 89 (9) : 1606-1613. **Impact Factor : .8**

[26]. ♣Alimohammadian, H., Sahni, A., Patnaik, R., Rana, R.S., and Hukam Singh (2005). First record of an exceptionally diverse and well preserved amber-embedded biota from Lower Eocene (~52ma) Lignites (Vastan, Gujarat). *Curr. Sci.* 89 (8) : 1328-1330. **Impact Factor : .8**

[27]. Bhandari, A., Hukam, Singh and Rana, R.S., (2005). A note on occurrence of Ostracodes from the Vastan Lignite mine, Gujarat. *Palaeont. Soc. India.* 50 (1) : 141-146.

[28]. Rana, R.S., Hukam, Singh. Sahni, A., Rose, K.D., and Saraswati, P.K., (2005). Early Eocene Chiropterans from a new mammalian assemblage (Vastan Lignite mine, Gujarat, Western Peninsular margin): Oldest known bats from Asia. *Palaeont. Soc. India.* 50 (1) : 93-100.

[29]. ♣Rana, R.S., Kumar, K., Hukam Singh. (2004). Vertebrate fauna from the subsurface Cambay shale (Lower Eocene), Vastan Lignite mine, Gujarat, India. *Curr. Sci.* 87 (12): 1726-1732. **Impact Factor : .8**

In press Papers:

[30]. ♣Grimaldi, D. Engel, M.S. Nascimbene, P.C. and Hukam Singh. (2013). Coniopterygidae (Neuroptera: Aleuropteryginae) in amber from the Eocene of India and the Miocene of Hispaniola. *American Museum Novitates.* **Impact Factor : 1.8**

[31]. ♣Grimaldi, D. Hukam Singh. Rose, K.D. Barden, P. and Krishna, K. (2013). A large Termite nest from the Palaeogene of India (Insecta: Isoptera: ? Termitidae), and Review of Termite Nest Through Geological Time. *American Museum Novitates.* **Impact Factor : 1.8**

[32]. ♣Grimaldi, D. Engel, M. and Hukam Singh. (2013). Leptosaldinae (Hepteroptera: Leptopodidae) in amber from the Miocene of Hispaniola and Eocene of India. *Journal of the Kansas Entomological Society.* **Impact Factor : .4**

[33]. ♣Blanco, J.O. Chatzimanolis, S. Hukam Singh and Engel, M.S. (2013). A new Rove beetle (Coleoptera: Staphylinidae) from Eocene Cambay amber India. *Coleopterists Bulletin.* **Impact Factor : .4**

[34]. Dixit. S. Basumatary, S.K. Hukam Singh and Bera, S.K. (2013). Pollen characterization of honey samples from Almora district, Uttarakhand. *Palaeobotanist.*

[35]. Prasad, M. **Hukam Singh, Singh, S.K. Mukherjee, D. and Ruiz. E.S. (2013).** Early Eocene arecoid fossil Palm wood, *Palmoxydon vastanensis* sp. nov. from Vastan Lignite Mine, Gujarat, India: its palaeoenvironmental implications. *J. Palaeont. Soc. Ind.*

[36].♣**Singh, A. Mahesh, S. Hukam Singh, Tripathi, SKM & Singh, B.D (2013).** Characterization of Mangrol Lignites (Gujarat), India— Petrology, Palynology and Palynofacies. *Inter. J. Coal Geology. Impact Factor : 2.7*

Abstract Published

Seven abstract published in different conference and Symposiums.

Co-Supervised two Master's Dissertation:

1. Miss. Rupal Dubey M.Sc. (Tech) Semester II, Dept. of Geology BHU. Training was **three weeks** starting from 21 May, 2012.
2. Mr. Abhishek Sharma, student B. Tech (Geo-Science Engg.) Semester- VI, Dept. of Petroleum Engineering and Earth Sciences, University of Petroleum and Energy Studies, Dehradun. The tenure of his training was **eight weeks** starting from 4th June, 2012.