

# PROFILE

**Name: Dr. Praveen Kumar Verma**

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**Qualification Ph.D. in Botany:** “Studies in the Hepaticae of Nilgiri hills with special reference to the epiphytic taxa”

**Area(s) of Specialization:** Bryophyte-Floristics, Ecology, Morpho-taxonomy and Ultra structural studies of liverworts

**Occupation/Designation:** Research Officer:

## **Major Activities:**

### **Training / specialized Courses Attended:**

1. Attended CSIR, New Delhi sponsored Summer Workshop on ‘*Tools and Techniques of Plant Diversity assessment and Conservation and Inventorization*’ held at Central Institute of Medicinal and Aromatic Plants, Lucknow. (June 18 – July 8, 2000).
2. Attended 89<sup>th</sup> Session of Indian Science Congress In Section : Botany, held at Lucknow University, Lucknow on January 03-07, 2002.
3. Attended two days “*Workshop on Taxonomy of Bryophytes:*” held at Lucknow University on March 7-8, March, 2008, organized under AICOPTAX, sponsored by Ministry of Environment and Forests.
4. Attended IT training during 25<sup>th</sup> -29<sup>th</sup> January, 2010 organized by Ministry of Environment and Forests in association with CMC Ltd, New Delhi at Jorhat under e-governance project as Trainee.
5. Attended ‘*10 weeks Induction Training for Scientists and Research Officers of ICFRE*’ under Indian Council of Forestry Research and Education held at FRI (Deemed) University Dehradun, Uttarakhand (15.03.2010 to 23.05.2010) as Trainee.
6. Attended Training on “*Sustainable Management of Land under Shifting Cultivation*” under SLEM – CPP Program of Ministry of Environment and Forests, Govt. of India held at RFRI, Jorhat on 06.09.2011 to 08.09.2012. The training followed by field trip to Nagaland.

**Field Experience and others:**

(i) Plant collections of different groups of plants (especially **Bryophytes**) from different Hotspot of Biodiversity of the India including Western Ghats (Nilgiri hills, Palni Hills, Agumbe, Kudremukh, Jog falls, Bangalore, Nandi hills and Mysore), Eastern Himalaya Biodiversity Hotspot (Sikkim, Arunachal Pradesh), and Indo- Burma Biodiversity Hotspot (Mizoram, Nagaland, Tripura, Barak valley of Assam, Meghalaya etc.) Apart that several trip also conducted to from other part of Southern Peninsula, Central India (Jhanshi, Amaravati, Bhopal, Indore) and Western Himalayas (Mussoorie, Deheradun, Chakrata, Deoban, Danaulti etc.) and collected more than over 10,000 accessions during plant collection trips.

(ii) Assisted in the preparation of the project reports of over thirty students in different aspects of Bryology.

(iii) Micro - propagation of Bryophytes through callus culture and through spore germination.

(iv) Worked as student demonstrator for B.Sc. I, II & III year and M.Sc. 1<sup>st</sup> Year (**Bryophytes** in Botany and Plant Science Classes) in Department of Botany, Lucknow University, Lucknow in running academic session (2007-2009).

**Project Completed / Running”****As JRF & SRF:**

1. **All India Coordinated Project on Taxonomy (Taxonomy of Bryophytes of Nilgiri Hills), Ministry of Environments and forests from September 14, 2000 to January 10, 2009.** – Collected more than 7000 bryophytes accession from Nilgiri Hills and Palni hills of southern peninsula.

**As Principal Investigator:**

1. **Exploration of diversity and utilization potential of *Sphagnum* species of forestry importance (RFRI-26/2009-10/SC):** Collected different *Sphagnum* species from Meghalaya (Khasi, Jantia and Garo Hills) and Sikkim (East Sikkim).
2. **Investigations on ecology of *Mimosa* invasion in Kaziranga National Park, Assam (RFRI-11/2008-2009/EB):** Collected data regarding infestation areas in KNP, Collected phonological and reproductive biology data of *Mimosa diplotricha*.

**As Nodal Officer:**

3. Identification of Extent of Forest land in forest Fringe villages (NRAA).
4. Forest Invasive Species of North- East India: Submitted report to ICFRE in relation to Status of Forest Invasive Species in North- East India.
5. Nodal Officer RFRI -Demo Village Programme

**As Associate:**

1. Quality and yield improvement in agroforestry based food produce through iodine biofortification under integrated nutrient management (RFRI-34/2009-10/SC).
2. NABARD sponsored 'On-farm innovation in macro-proliferation technique and its promotion for commercial plantations of edible bamboo species (RFRI/ EP/18).
3. NBM sponsored 'Sustainable Development of Quality Bamboo Resource for Employment Generation and Socioeconomic Development in Northeastern India (RFRI/EP/19).
4. DST sponsored: Assessment of land use systems in *jhum* areas and investigation of production related parameter (RFRI/EP/20).
5. Productivity Enhancement in abandoned Jhum land through Agroforestry Management and Value Addition (RFRI-22/2009-10/SC): Assisting in collection of data from Garo hills of Meghalaya.

**Project completion report/Status report, Imparted as resource person etc.**

- Assisted in preparation of Project Completion Report On farm innovation in macro-proliferation technique and promotion for commercial plantations of edible bamboo species (RFRI/FIPF-NABARD/01).
- Assisted in preparation of A Mid Term Report on RFRI Demo Village Program (Web Publication) [http://www.icfre.org/UserFiles/File/Institute-RFRI-2011 /RFRI %20Demo\\_%20Status% 20report%20-%20Final%2015072011.pdf](http://www.icfre.org/UserFiles/File/Institute-RFRI-2011 /RFRI %20Demo_%20Status% 20report%20-%20Final%2015072011.pdf)

**(Research Contributions Published/Accepted/under review/Communicated/  
Abstract/ PCR/Book Chapters/Manuals/ Articles in Magazine)**

**Published:**

1. *Plagiochila peradenyensis* Schiffn. New to India *Geophytology* 2000; 30 (1 & 2) 75-79, ( S.C. Srivastava, **P. K. Verma** and S.A.H. Rizivi).
2. Exploration of liverworts (Hepaticae) diversity on Chinchona plantation in Nilgiri (Dodabetta), India .*Geophytology* 2004; 32: 1-17 (S.C. Srivastava and **P. K. Verma**).
3. Genus *Arachniopsis* Spruce – new to India with *A. indica* sp. nov. as new to science. *Nat. Acad. Sci. Lett.* 2004; 27 (7 & 8): 269-272. (S.C. Srivastava and **P. K. Verma**).
4. *Gongylanthus indicus* sp. nov. (Hepaticae) an interesting new addition from India (Nilgiri hills). *India. Indian Journal of Forestry* 2004; 28: 200–205 (S.C. Srivastava and **P. K. Verma**).
5. An Interesting *Plagiochila* from Kodaikanal (India) *Nat. Acad. Sci. Lett.* 2006; 29 (7 & 8): 267-270, (S.C. Srivastava **P. K. Verma**, and K.K. Rawat).
6. *Plagiochila gracilis* Lindenb. & Gott. and *P. subtropica* St. in Western Ghats (Nilgiri Hills). *Phytotaxonomy*, 2006 (2007); 6: 78-83, (S.C. Srivastava, **P. K. Verma** and Afroz Alam).
7. Genus *Taxilejeunea* in Western Ghats (India). *Proc. Indian Acad. Sci .* 77 (B): 206 – 214. 2007 S.C. Srivastava **P. K. Verma**).
8. *Cyathodium* (Bryophyta: Liverworts) from Chakrata, Western Himalaya. *Current Science* 2008; 94 (4): 442-443 (with G. Asthana, **P. K. Verma**, Murti and Amrita Shukla).
9. Diversity and distribution of Epiphytic liverworts in Nilgiri Hills. *Proc. Nat. Acad. Sci. India* 2008; 78 (B): 253 – 264. (**P. K. Verma** and S.C. Srivastava).
10. *Plagiochila junghuhniana* Sande Lac. new to Indian Mainland (Nilgiri Hills, Western Ghats). *Journ. Bombay. nat. Hist. Society* 2008; 105 (2): 236-238, (Mumbai) (**P. K. Verma** and S.C. Srivastava).
11. Genus *Cololejeunea* (Spruce) Schiffin. in Nilgiri Hills (Western Ghats), *Nelumbo* 2010; 51: 157 -160. (**P. K. Verma**).
12. SEM study of *Leucolejeunea xanthocarpa* (Lehm. & Lindenb.) A. Evans. *Geophytology*; 2010, 38 (1-2): 97 – 99, 2010 (**P. K. Verma** and S.C. Srivastava).

13. Endemism in Liverworts of Western Ghats and their present status. *Archive for Bryology* 2011; **99**: 1-23, (P. K. Verma and S.C. Srivastava).
14. Status of Mosses in Nilgiri Hills (Western Ghats), India. 16 pp *Archive for Bryology* 2011; **102**: 1-16, (P. K. Verma, Afroz Alam and S.C. Srivastava).
15. *Lejeunea tuberculosa* Steph. (Hepaticae) from Nilgiri hills, Western Ghats, *Indian Journal of Forestry* 2011; **34** (3): 477-78 (P. K. Verma and S.C. Srivastava).
16. Species diversity of genus *Microlejeunea* Steph. (Lejeuneaceae, Hepaticae) in Nilgiri hills, Western Ghats, Tamil Nadu, *India Journ. Bombay. Nat. Hist. Society* 2011; **108** (2): 120 -125, (P. K. Verma and S.C. Srivastava).
17. SEM studies on *Frullanoides tristis* (St.) Van Slageren (Liverwort, Bryophyta) *Geophytology* 2011; **41** (1-2):105-107, (P. K. Verma and S.C. Srivastava).
18. Moss Flora of Palni Hills (Tamil Nadu), India- A Checklist, *Archive for Bryology* 2011; **112**: 1-8, (with Afroz Alam, P. K. Verma, G. Asthana and S. Yadav).
19. *Lejeunea srivastavae* sp. nov. (Hepaticae, Lejeuneaceae), from Nilgiri hills of Western Ghats (India) *Taiwania* 2013; **58** (1): 7-11, (P. K. Verma and K. K. Rawat).
20. The Liverwort and Hornwort flora of Hollongapar Gibbon Sanctuary, Jorhat (Assam) -1. *Archive for Bryology* 2012; **152**: 1-16, (P. K. Verma, K. K. Rawat, Alok Yadav and Niren Das).
21. *Plagiochila bantamensis* (Reinw. et al.) Mont. of the subgenus (Metaplagiochila Inoue (Marchantiophyta: Plagiochilaceae) new to the liverwort flora of Indian mainland. *Taiwania* 2013; **58** (1): 124-127, (P. K. Verma, K. K. Rawat and Alok Yadav).
22. Bryophyte Invasion on famous archeological site of Ahom dynasty 'Talatalghar' of Sibsagar, Assam (India) *Proc. Natl. Acad. Sci., India, Sect. B Biol.*

*Sci.* **2013**; DOI 10.1007/s40011-013-0198-2. (P. K. Verma, V. Kumar, A. Yadav and P. K. Kaushik)

23. *Leptolejeunea subdentata* Schiffn. ex Herzog, new to Meghalaya from East Khasi hills, *Archive for Bryology* **2013**; **177**:1-5. (P. K. Verma and Krishna Kumar Rawat and Ranjeet Kumar),
24. Recent flowering in *Thamnocalamus aristatus* (Gamble) E. G Camus in East Sikkim *Researcher* **2013**; **5** (9):19-21 (P. K. Verma, K.K. Rawat, Niren Das, Alok Yadav and P. K. Kaushik)
25. *Isopaches decolorans* (Limpr.) H. Buch. (Marchantiophyta: Lophoziaceae) in India, A Noteworthy Rare and Disjunct Liverwort, *Nature and Scienc* **2013**; **11**(9):119-122]. (ISSN: 1545-0740). (P. K. Verma and K.K. Rawat).
26. A Botanical Enigma on India's Hottest Chillis 'Bhoot Jolokia' (*Capsicum Chinense* Jacq.) *New York Science Journal* **2013**; **6**(11): 49-51, (ISSN: 1554-0200). (P. K. Verma, K. K. Rawat, N. Das and B. Pradhan)
27. *Mastigolejeunea humilis* (Gott.) Schiffn., new to Indo-Burma Biodiversity Hotspot from Sibsagar, Assam *Geophytology*, **2013**; **43**(2): 163-166. (P. K. Verma, K. K. Rawat, Alok Yadav and P. K. Kaushik)
28. Assessment of liverwort and hornwort flora of Nilgiri Hills, Western Ghats (India) *Polish Botanical Journal* **2013**; **58**(2): xx-xx. (P. K. Verma, A. Alam and K. K. Rawat).
29. Effect of *Sphagnum* spp. As substrate media on rooting response of *Cinnamomum verum* presl. (syn. *C. zelayanicum* Bluma) through air layering, *Journal of Non-Timber Forest Product* **2013**; **20** (3): 179-182 (P. K. Verma, N. Das, V. Kumar and R. Kumar)
30. Scanning Electron Microscopy of some selected south Indian taxa of Marchantiales (Bryophyta: Hepaticae) *Archive for Bryology* **2013**; **190**: 1-6. (P. K. Verma, Afroz Alam, Vinay Sharma, P. K. Verma, and Krishna Kumar Rawat).

**Accepted for publication:**

1. *Leptolejeunea epiphylla* (Mitt.) Steph. New to Indian Mainland from Indo-Burma Biodiversity Hotspot (Gibbon Wildlife sanctuary, Jorhat, Assam), *Indian Journal of Forestry*, (P. K. Verma, K. K. Rawat, Alok Yadav and Niren Das (in press).

2. Air Layering through *Sphagnum* moss in *Guadua angustifolia* Kunth, a Commercial Important Bamboo (P. K. Verma, N. Das, P. K. Kaushik, Dr.V. Kumar, Alok Yadav), *Indian Forester* (in press).
3. Land cover mapping and dynamics of Kaziranga National Park, Assam, India ), (P. K. Verma, D. J. Das, V. Kumar, H. R. Bora, G. Gogoi, P. Gogoi, and N. K. Vasu) *Indian Forester* (Proof corrected).
4. A note on Sundew (*Drosera burmanni* Vahl.) from Northeastern India and their conservation through *Sphagnum* moss) (P. K. Verma, Alok Yadav, Dr. K. K. Rawat, and P. K. Kaushik) (revision submitted in *Indian Forester* ).
5. *Anthoceros subtilis* Steph. a rare disjunct species from Western Ghats realm, new to Eastern Himalayan realm from Assam (P. K. Verma, K. K. Rawat and R. Kumar), (*Proc. Nat. Acad. Science, India*) (Revised and submitted).
6. A note on *Plagiochila furcifolia* Mitt. (Marchantiophyta: Plagiochilaceae) from India (P. K. Verma, K. K. Rawat and Alok Yadav) (**Geophytology**) (Accepted).
7. *Plagiochila duthiana* Steph. – a poorly known species discovered from Western Ghats (Nilgiri hills, Tamil Nadu) (P. K. Verma and K. K. Rawat) (Communicated in *Journal of Bombay Natural History Society*).

**Communicated:**

8. *Cololejeunea furcibulata* (Berrie & E. W. Jones) R. M. Schust. (Hepaticae, Lejeuneaceae), new to Indo-Burma biodiversity Hotspot (Accepted for Review) (P. K. Verma, K. K. Rawat, Alok Yadav and P. K. Kaushik))
9. Rediscovery of *Plagiochila sisparensis* Steph - an Vulnerable liverwort from Nilgiri Hills, Western Ghats (P. K. Verma and K. K. Rawat) (Communicated in *Journal of Threatned taxa*).
10. Present status of Genus *Rectolejeunea* E. Evans (Marchantiophyta) in India (P. K. Verma and K. K. Rawat) (Communicated in *Journal of Bryology*).
11. Air Layering through *Sphagnum* moss in *Elaeocarpus angustifolius* Blume

(Rudraksha), a Commercial Important tree species (P. K. Verma and N, das, V. Kumar, P. K. Kaushik and A. Yadav) (Communicated in **Indian Forester**).

#### **Volume Chapter:**

1. Bamboo based agroforestry *In: Bamboo in North-East India*, A management Guide), (ed. R.K. Borah et al), (V. Kumar, D. Bordoloi, P. K. Kaushik and P. K. Verma vol. II, page 39-50 (2009).

#### **Chapter in Training Manual:**

1. Changing Scenario of shifting Cultivation in North Eastern India. In: *Shifting Cultivation Practices vis-à-vis Livelihood Opportunity in North East India*, published RFRI Jorhat under Sustainable Land Ecosystem Management- Country Parttnership Programme, ICFRE, Dehradun, on 25<sup>th</sup> -27<sup>th</sup> Febuary, 2013 (V. Kumar, P. K. Kaushik and P. K. Verma), pp. 14-27.

2. Role of remote sensing and GIS in managing and monitoring of shifting Cultivation induced land use/ cover change in North Eastern India. In: *Shifting Cultivation Practices vis-à-vis Livelihood Opportunity in North East India*, published RFRI Jorhat under Sustainable Land Ecosystem Management- Country Partnership Programme, ICFRE, Dehradun, on 25<sup>th</sup> -27<sup>th</sup> Febuary, 2013 (D.J.Das, A.P. Singh, P. K. Verma, R. Kumar and R. K. Kalita), pp. 202 – 211.

#### **Articles published in Hindi Magazine:**

1. प्रवीण कुमार वर्मा, श्री पवन कुमार कौशिक, श्री आलोक यादव एवं श्री निरेन दास (२०१२). असम मे कम लागत वर्मीकंपोस्ट जैविक खाद बनाने की विधि. तरुचिन्तन 4: ९६-९७.
2. प्रवीण कुमार वर्मा, श्री पवन कुमार कौशिक, श्री आलोक यादव एवं श्री निरेन दास (२०१२). स्फैगनम(माँस): एक चमत्कारी रोपणी मीडिया, 4: ९१-९३.
3. प्रवीण कुमार वर्मा (२०१३). अद्भुत पेड़ पाओढे, अनुनाद १ (१): १७.

#### **Articles Communicated in Hindi Magazine:**

- प्रवीण कुमार वर्मा, श्री पवन कुमार कौशिक एवं श्री निरेन दास (२०१३). भूतजोलकिया – सुपारी कृषिवानिकीमॉडल, तरुचिन्तन (प्रेषित).
2. प्रवीण कुमार वर्मा, ध्रुवाज्योति दास, विश्वजीत कुमार, रंजीत कुमार (२०१३). माइमोसा, तरुचिन्तन (प्रेषित).

#### **Abstracts Published**

1. A preliminary survey of the liverwort and hornwort flora of Government Botanical Garden, Ootacamund, Nilgiri. In 'National Seminar on New Challenges in



Taxonomy for utilization and Conservation of Plant Diversity' held at BSI, Dehradun during February, 2001 (S. C. Srivastava, **P. K. Verma** and S.A.H. Rizvi).

2. A note on Hepaticae of Dodabetta (Udhagamandalam) Nilgiri, South India. Abstract. PP. 16. Pp.78. In 'World conference on Bryology' organized by International Association of Bryologist held at NBRI during 21-30 January, 2002 (with. S. C. Srivastava, **P. K. Verma** and A. Alam).
3. A note on the study of Hepatic diversity in Avalanche, Nilgiri Hills. Abstract. Pp.111. In 'National Conference on Biodiversity- Past and Present' organized by The Palaeobotanical Society, held at BSIP, Lucknow during 28-29 November, 2003 (with. S. C. Srivastava and **P. K. Verma**).
4. Status of genus *Lejeunea* Libert (Hepaticae) in Nilgiri Hills. Abstract PII- 37. In 'National Conference on Biodiversity and Applied Biology of Plants', Organized by Department of Botany, Lucknow University Lucknow during Oct. 8-10, 2003. (**P. K. Verma** and S.C. Srivastava).
5. Genus *Cololejeunea* (Spruce) Schiffn. in Nilgiri hills (Western Ghats). Abstract PII- 37. In "", Organized by Indian Botanical Society, Department of Botany, Jiva Ji University, Gwalior November. 28- 30, 2007. (**P. K. Verma** and S.C. Srivastava).
6. *Lejeunea tuberculosa* Steph. (Hepaticae) from Nilgiri hills, Western Ghats. Abstract – S2.9:79 in 31<sup>st</sup> Indian Botanical Conference and International Symposium on Plant Biology and Environment Change Scenario Organized by Indian Botanical Society, Department of Botany, Allahabad University December, 17- 19, 2008. (**P. K. Verma**).
7. Recent Trends in Shifting Cultivation (Jhum) Practices among the garos of Meghalaya: A case study. In: National Conference on Frontiers in Plant Physiology towards sustainable Agriculture, held at Assam Agriculture University, Jorhat on Nov. 5-7, 2009, Abstract (4), page no. 258. (with Borodolai, D., Kaushik, P.K., and Kumar V. and **P. K. Verma** )
8. Invasive Weed Species in Kaziranga National Park: Impacts and Management. In: National Forestry Conference held at FRI, Dehradun on Nov. 9-11, Abstract

Theme 3, 3-73, Page no. 195 (with Kumar, V., Borodoloi, D., **P. K. Verma** Kaushik P.K. and Vasu, N. K.)

9. Reproductive Ecology of *Mimosa diplotricha* C. Wright Poster presented in First Indian Forest Congress under Theme : Forest Biodiversity and Landscapes, Abstract published Page No. 289 held at National Academy of Agricultural Science, NASC, New Delhi, Nov. 22-25, 2011. (**P. K. Verma**, Kumar, V., Das, D. J., Borah, H.R.; Kuashik, P.K and Vasu, N.K),
10. *Mimosa Invasion* Risk Zonation in Kaziranga National Park using Remote Sensing and GIS - A Case Study of Burapahar and Baguri Range. Abstract published in First Indian Forest Congress under Theme: Expanding Frontiers of Forestry Science, Abstract published Page No. 197 held at National Academy of Agricultural Science, NASC, New Delhi, Nov. 22-25, 2011. (with Dhruba Jyoti Das\*V. Kumar, H.R. Bora, **P. K. Verma**, P. Gogoi, G. Gogoi, B. Nayek and N.K. Vasu)
11. Technology Demonstration and On-farm Participatory Research, Poster presented in First Indian Forest Congress ,Abstract published, held at Notational Academy of Agricultural Science, NASC, New Delhi, Nov. 22-25, 2011. . (**P. K. Kaushik**, **P. K. Verma** and Alok Yadav)
12. Diversity and Utilization potential of *Sphagnum* (Bryophyta) Abstract published in International Conference on 'Non wood Forest Produce sustained Livelihood', held at Bhopal organized by Department of Environment and Forests, Madhaya Pradesh on Dec. 17 – 19, 2011, page 86. (**P. K. Verma**, Indrani P. Borah, Niren Das, Alok Yadav and P. K. Kaushik)
13. On-farm participatory innovations and modeling of transferred technologies for instant adoption by locals as sustainable livelihood options. XXIII IUFRO World Congress- Forests for the Future: Sustaining society and the Environment to be held on 23-28<sup>th</sup> August 2010, Seoul, Republic of Korea. ((**P. K. Verma**, Kaushik, P.K., Yadav, A., Kumar, V., Das, N, Bhattacharyya, R and Borah, N. ) (Abstract No. S02696)
14. Impact Assessment of local communities on medicinal plants in Nambor reserve Forests, Abstract published in International Conference on 'Non wood Forest

Produce sustained Livelihood', held at Bhopal organized by Department of Environment and Forests, Madhya Pradesh on Dec. 17 – 19, 2011, page 64. (with, Alok Yadav, **(P. K. Verma,** Amarjyoti Saikia and P. K. Kaushik).

15. *Mimosa diplotricha* C. Wright ex Sauvalle, a potential invasive species in Kaziranga National Park landscapes, a UNESCO World heritage site under Focal Theme Ecosystems management in 2nd National Conference on Environment and Biodiversity of India, 29-30 December 2012, New Delhi (**P. K. Verma,** Dhruva Jyoti Das, Papor Gogoi, P. K. Kaushik) (Abstract published) pp. 49.
16. Alarming threat of *Mimosa diplotricha* in unique savanna grassland ecosystem of kaziranga national park, a UNESCO world heritage site: Problems and solutions, (Track 1-5: Population and conservation Biology) in International Conference on Biodiversity & Sustainable Energy Development -Biodiversity-2012, September 14-15, 2012 Hyderabad International Convention Centre, India (Abstract published), J Ecosyst. Ecogr 2012, 2:4. (**P. K. Verma,**
17. Energy Crop Plantation in North –East India: Prospective and Challenges in in International Seminar and Workshop on energy, Sustainability and development (ISWESD 2012) held at Sibsagar College:Joysagar Sivasagar, Assam, India (**P. K. Verma,** P. K. Kaushik, Niren Das and Alok Yadav (Abstract published) Abstract No.217
18. Adaptability of Green Technologies in Demo Village, Jorhat (Assam) - A way of Green path, in International Seminar and Workshop on energy, Sustainability and development ( ISWESD 2012) held at Sibsagar College:Joysagar Sivasagar, Assam, India from October 12- 14, 2012 (**P. K. Verma,** P. K. Kaushik, Niren Das and Alok Yadav (Abstract published) Abstract No. 213.
19. Ethnomedicinal plants in Fringe villages of Gibbon Wildlife Sanctuary, Jorhat (Assam) - in National conference on Phytomedicine held at Deptt. Of Botany Bharathiar University Coimbatore – 641 046 Tamil Nadu from October 12- 14, 2012 (with Alok Yadav and P. K. Kaushik) (Abstract published) pp. 209.
20. पूर्वोत्तर भारत के दुर्लभ वन – औषिध पौधे एवं उनका जन-जीवन में उपयोग, रक्षा अनुसंधान प्रयोगशाला द्वारा आयोजित अखिल भारतीय राजभाषा संगोष्ठी' स्वास्थ्य व स्वच्छता, अक्टूबर ३०, २०१२, (**प्रवीण कुमार वर्मा,** ध्रुवाज्योति दास एवं रंजीत कुमार) पेज ६७-६८.

21. जलवायु परिवर्तन के आक्रामक प्रजातियों द्वारा वास परिवर्तन पर प्रभाव, रक्षा अनुसंधान प्रयोगशाला द्वारा आयोजित अखिल भारतीय राजभाषा संगोष्ठी' स्वास्थ्य व स्वच्छता, अक्टूबर ३०, २०१२, (ध्रुवाज्योति दास, **प्रवीण कुमार वर्मा**, रंजीत कुमार एवं ए. पी. सिंह) पेज ५७-५८.
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1. On-form innovation in Macro-proliferation Technique and promotion for commercial Plantation of edible Bamboo Species (P. K. Kaushik, I. P. Borah, Alok Yadav, T. C. Bhuyan, **P. K. Verma**, A. Baruah, R. Bhattacharyya, N. Das and NJ. Borah under NABARD

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