CURRICULUM VITAE

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Zoology
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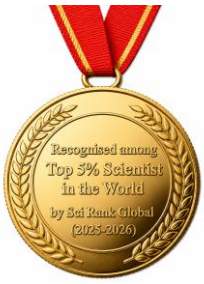

Google Scholar: https://scholar.google.co.in/citations?user=c3XtOUkAAAAJ&hl=en

	All	Since 2016
Citations	3038	2345
h-index	30	26
i10-index	86	70
Scopus h-index	26	-
Scopus ID	54914841800	-
Researcher ID	AAF-6204-2020	-
Google scholar ID	c3XtOUkAAAAJ	-
Vidwan ID	259430	-

EDUCATION

1. **Post Doctoral Fellow** (Indo-US Exchange Fellow): Morehouse School of Medicine (2015), Department of Microbiology, Biochemistry and Immunology, Atlanta, Georgia, USA.
2. **Ph.D**., Zoology, Cell & Tumor Biology Laboratory, North Eastern Hill University, Shillong, India, 2013 (supervisor: Prof. S.B. Prasad).
   Thesis: Studies on the antitumor efficacy and toxicity of the blister beetle, *Mylabris cichorii* extract in mice bearing ascites Dalton's lymphoma.
3. **M.Sc**., Life Sciences (Specialization- Biochemistry & Molecular Biology), ranking **First Class First (Zoology)**, Dibrugarh University, Dibrugarh, Assam, India, 2007.
4. **B.Sc.**, Zoology (Major), Lumding College, Lumding, Guwahati University, Guwahati, India, 2005.
5. Higher Secondary in Science, AHSEC (Physics, Chemistry & Biology), Lumding College, Lumding, India, 2002.
6. High School Leaving Certificate, SEBA, Karbi Anglong, Assam, India, 1999.

SHORT TERM CERTIFICATE COURSE

1. Certificate course in computer programming language (C/C^{++}), BDPS, Mumbai, India, 2009.
2. Certificate course in MATLAB Programming, Computer Centre, NEHU, Shillong, India, 2011.
3. Certificate course in 2D & 3D designing in AutoCAD, CEC, Maligaon, Guwahati-12, Assam, 2024

RESEARCH EXPERIENCE

Ph.D. research experience: Five years plus (2008-2013)

Post Doctoral research experience: 2 Years 7 Months

1. **Post Doctoral Fellow (Indo-US Exchange Fellow)** at Morehouse School of Medicine (2015), Department of Microbiology, Biochemistry and Immunology, Atlanta, Georgia, USA.
   Title: Role of chemokine receptor in disparities associated with prostate cancer progress.

2. **DBT-Post Doctoral Fellow (**2013-2015) at Cachar Cancer Hospital & Research Centre, Silchar, Assam; Cancer Institute, Adayar, Chennai and Assam University, Assam.
   Title: Validation of the SNPs involved in promoting genetic susceptibility to oral cancer among long term tobacco chewers identified in the North-Eastern and Southern India population.

TECHNICAL SKILLS

1. Experience in culture of cancer cell lines (MCF-7, DL, EAC etc.) *in vitro* and maintenance of cancer cell lines in C3H/He mice strain, *in vivo*.
2. SNPs analysis and HPV subtyping of oral cancer in North East Indian population.
3. Experience in maintenance and breeding of mice, rats and rabbits at North Eastern Hill University (2008-2013)
4. Human peripheral blood lymphocytes, macrophages and thymocyte collection and culture for cytotoxicity assay, Enzymes assay and kinetics study.
5. Apoptosis, necrosis and autophagy study in different cancer cell lines with possible molecular mechanism by TEM, SEM, Flowcytometry, fluorescence microscope, PCR and confocal microscopy.
6. Maintenance and testing of anti-diabetic activity of natural products extracts in alloxan induced diabetic mice.
7. Screening of antioxidant and anticancer activity of plants and insects extracts *in vivo* and *in vitro.*
8. Phytochemicals analysis, isolation, purification and crystallization of active compound from plants and animals sources using NMR, IR, GC-mass, UV, CHNO- elemental analysis, HPLC and X-ray diffractometer.
9. Study of cell proliferation and kinetics by flowcytometry, fluorescent and Giemsa staining method.
10. Working experience in PCR, Q-PCR, PCR primer design and western blot analysis.
11. Separation of biological sample using Agarose gel, SDS-PAGE, Immuno-electrophoresis, Immuno-diffusion, TLC and column chromatography.
12. Genotoxicity assay (Chromosome aberration, comet-NE assay, sperm abnormality and micronucleus assay) using confocal microscope.
13. Experience in haematology studies (RBC/WBC counts, Hb and PCV), histopathology with histomorphometric analysis, urine test, liver function test and kidney function test after drug treatment on experimental animals.
14. Virtual screening using ligand-based pharmacophore generation and their QSAR analysis.
15. *In silico* 3D Molecular modeling of protein structure determination.
16. *In silico* genome analysis, protein function prediction and phylogenetic tree analysis.
17. Proficient in statistical analysis and software (Origin Pro & MATLAB).

CURRENT AREAS OF RESEARCH

1. Bio-activity guided isolation, characterization and structure elucidation of anticancer active principle(s) from different medicinal insects and plants collected from North East India.
2. 3D Nuclei design &Freshwater pearl culture.
3. Cytokines and chemokines mediated Androgen receptor transcriptional activation in prostate cancer.
4. SNP profiling, HPV sub typing and polyploidy analysis of oral cancer from extensive tobacco chewers of North East Indian population.
5. Studies of molecular mechanisms of cancer progression and treatments through Her-2, ER, PR, ALDH-1 and P-16.
6. *In silico*- Drug designing & Network Pharmacology.

WORKSHOPS AND TRAINING ATTENDED

1. Certificate in High Performance computing course C-DAC, Pune, March 03-06,2009.
2. CIMAP Training school on Advance Instrumentation and Analytical Techniques for Natural Products (AIAT-2009). The instruments covered were GC, GC-MS, HPLC, HPTLC, NMR, LC-MS, FT-NIR and ICP. June 10-16, 2009.
3. Participated in the workshop on FT-NMR spectroscopy: Theory, Application, and Experimentation. SAIF, NEHU, Shillong, Nov 16- 19, 2009.
4. Participated in the 16th DBT-sponsored training course on "*In silico* Approach to Genome Analysis, BIC-NEHU, February, 5-11, 2009.
5. Certificate course (6 months) in C & C++ from BDPS, Mumbai, India 2009.
6. Participated in the workshop on "Atomic Absorption Spectroscopy Basic principles, Applications and Practical demonstration, SAIF, NEHU, Shillong, Nov 11- 13, 2009.
7. Hands on training program on Bee hive rearing, culture and managements at Agriculture University, Jorhat, Assam (India), December 15-20, 2006.
8. Three-month project work experience at Dibrugarh University entitled "The Effect of Endosulfan (35% E.C.) on The Muscle Tissue of Fresh Water Air-Breathing Teleost (*Channa gachua)".*
9. Short term course on Advance Technique in Cellular and Molecular Biology held at IIT, Guwahati organized by dept. of Biotechnology, November 15 -19, 2010.
10. Short term training course (3 months) in Matlab Programming, NEHU, Computer Centre 2011.
11. Participated in the workshop on 'Techniques in Molecular Biology' Under State Level Biotech Hub Project, NEHU, Shillong, November 17- 25, 2011.
12. Short term training on Protein 3D Structure Modeling. Tezpur University, Tezpur, November 23-26, 2011.
13. Short term course in Disaster management. Organized by UGC-Academic staff College NEHU, 7-9 Feb, 2012.
14. Attended in a training program on 'In silico characterization of Proteins from sequences and Molecular modeling approaches. BIF, Veterinary College, Assam Agriculture University, Guwahati, November 7-9, 2012.
15. Attended 12th Clinical Cytometry Course at Tata Memorial Hospital, Hematopathology Laboratory. Organized by: TATA memorial Hospital and Super Religaregare Lab Ltd., Mumbai, on 4-8 August 2014.
16. Attended in a training program on 'Computational Approaches to understand Protein-Protein and Protein-Ligand interactions. BIF, Veterinary College, Assam Agriculture University, Guwahati, February 16-19, 2016.
17. Participated in a workshop entitled "Capacity building in grant writing skills and effective management of Intellectual property Rights (IPR) in Biotechnology by universities and research institutions in North East Region" at Dibrugarh University, Dibrugarh, Assam. Organized by BCIL, New Delhi, November 16-18, 2016.
18. Participated in a workshop entitled Campus Bird Count; Organized by Cotton College State University (Now Cotton University) from 12-15 February, 2016.
19. Participated in a workshop entitled "Computational approach to understand protein-protein and protein-ligand interactions" Conducted by the Bioinformatics Infrastructure Facility, C.V.Sc., AAU., Khanapara, Guwahati from 16-19 February, 2016.
20. Participated in a workshop entitled "Biomolecular Interactions and Dynamics" Conducted by the Bioinformatics Infrastructure Facility, C.V.Sc., AAU, Khanapara, Guwahati from 3-6 January, 2017.
21. Participated in UGC Sponsored Orientation Program; Organized by HRD Centre, Gauhati University, from 29 May to 25 June, 2017.
22. Attended International Workshop on "Tools and Techniques to Perform Molecular Modeling and Computer-Aided Drug Design" seven days international workshop 'MMTT-2021' organized by the Department of Medicinal Chemistry, NIPER Guwahati, January 11-17, 2021.
23. Faculty Development Program on Basic and Advanced Proteomics Approaches, Indian Institute of Technology Bombay, 15-26 February, 2021.
24. Completed 5 days training program on Understanding, scouting, protecting, and utilizing Intellectual Property from North East. Organized by: North East Centre for Technology Application and Reach (NECTAR) at Techno Demo Centre, Guwahati Centre, Assam, May 23-27, 2022.
25. One-week national workshop on intellectual property rights, academic ethics, and innovation for entrepreneurship development (NWIPR-2023). Organized by: Handique Girls' College, Assam and Patent Information Centre (PIC), ASTEC. Date: 6th-10th November 2023.

RESEARCH PAPERS PUBLISHED/ACCEPTED

1. Biswas, C., Baildya, N., ***Verma, A.K.**, Sen, A., Sk, S., Banik, A., Roy, S. and Adhikari, S. (2026). Binuclear Cu (II) complex featuring asymmetric μ-chlorido bridges derived from a tridentate thiosemicarbazone ligand: structural insights and cytotoxicity evaluation. *Inorganic Chemistry Communications*, 191 (2026), 117049. https://doi.org/10.1016/j.inoche.2026.117049
   Impact factor: 5.9
2. Dutta, N., Begum, F., Hazarika, P.K., Hussain, S., Dutta, P.P., Gogoi, D., ***Verma, A.K**. and Sarma, D. (2026). A sustainable bio-based catalytic system for the synthesis of [1,2,4]-triazoloquinazolinones as promising anticancer agents. *New Journal of Chemistry,* 2026. https://doi.org/10.1039/D6NJ01105E
   Impact factor: 2.6
3. Devi, M., **Verma, A.K.** & Singh, N.S. (2026). Exploration of phytochemicals, GC-MS analysis, and assessment of *in vitro* cytotoxic potential of *Justicia adhatoda* (L.) against Dalton's Lymphoma Ascites (DLA) murine tumor model'. *Indian Journal of Experimental Biology*, 64(6), 483–499. https://doi:10.56042/ijeb.v64i06.23973.
   Impact factor: 0.944
4. Dutta, D., ***Verma, A.K.**, Singh, N.S., Gogoi, D. and Dutta, P.P. (2026). Deciphering the anticancer potential of an entomopathogenic fungus, Cordyceps militaris in Dalton's Lymphoma transplanted murine model: a multidimensional approach involving computational methods and in vivo validation. *Molecular and Cellular Biochemistry.* https://doi.org/10.1007/s11010-026-05575-1
   Impact factor: 3.7
5. Begum, T., Hazarika, M., Das, A., Bhuyan, P., **Verma, A.K**., Das, B., Agarwal, S., Guha, A.K. and Ganguly, M. (2026). Formulation of a Modified Aloe vera-Based Emulgel for Sustained Release of Methotrexate: Integrated Experimental and Theoretical Approaches. *ACS Omega*. https://doi.org/10.1021/acsomega.5c13440
   Impact factor: 4 .3
6. Chaliha, A., Banik, S., Gomila, R.M., Frontera, A., Barceló-Oliver, M., ***Verma, A.K**., Dutta, D. and Bhattacharyya, M.K. (2026). Pyridine Based Dinuclear Zn (II) and Mononuclear Co (II) Metal-organic Compounds involving 2-Methyl Benzoates: Synthesis, Supramolecular Assemblies, Antiproliferative Evaluation and Theoretical Studies. *Journal of Molecular Structure*, p.146083.
   https://doi.org/10.1016/j.molstruc.2026.146083
   Impact factor: 4 .7
7. Das, J., Singh, N.S., Jat, S., Matsa, R., Kumar, P. and ***Verma, A.K**. (2026). *Unravelling the antioxidant potential of Cordyceps militaris and cordycepin: a comprehensive assay evaluation*. *Combinatorial Chemistry & High Throughput Screening*, volume(issue), 1-14.
   Impact factor: 1.7
8. Ghosh, S., Dhara, S.R., ***Verma, A.K**., Hussain, S. & Ghosh, K. (2026). Naphthalimide-derived new zinc salen complexes in picric acid recognition and anticancer activity. *Journal of Molecular Structure*, 1358, 145273. https://doi.org/10.1016/j.molstruc.2026.145273
   Impact factor: 4 .7
9. Kalita, K., Basumatari, D., Kakati, T., Das, P., Sarma, N.S.S., **Verma, A.K**., Kalita, N. & Sarma, A. (2026). Three freshwater gastropod species consumed in Assam, India. *Combinatorial Chemistry & High Throughput Screening*, volume (issue), 1-12. https://doi.org/10.2174/0113862073419515251107132458
   Impact factor: 1.7
10. Begum, T., Agarwal, S., Borah, P., **Verma, A.K**., Devi, A. and Ganguly, M. (2026). Phytogenic synthesis of gold–ruthenium (Au–Ru) bimetallic nanoparticles using Aloe vera gel and evaluation of their anticancer potential. *RSC advances*, *16*(1), 439-452.
    https://10.1039/D5RA08541A
    Impact factor: 4.6
11. Choudhury, A., Singh, N.S. & ***Verma, A.K**. (2025). Investigating anticancer potential of methanolic extract of *Cyperus rotundus* rhizome: In vitro analysis on Dalton's lymphoma cells and toxicity evaluation in mouse model. *Indian Journal of Experimental Biology*, 63(10), 844-856. https://10.56042/ijeb.v63i10.15874
    Impact factor: 0.944
12. Dutta, K.K., Boro, M., Gomila, R.M., Frontera, A., Barcelo-Oliver, M., Gogoi, M., **Verma, A.K**. and Bhattacharyya, M.K. (2025). Supramolecular assemblies in Zn (II) metal-organic compounds involving 3-aminopyridine and 1, 10-phenanthroline: antiproliferative evaluation and theoretical studies. *Polyhedron*, 117932.
    https://doi.org/10.1016/j.poly.2025.117932
    Impact factor: 2.6

13. Nath, S., Roy, S., Ghanta, S., Bej, S., Roy, B.C., Saha, K., Butcher, R.J., ***Verma, A.K.**, Mahapatra, T.S. and Adhikari, S. (2025). An octahedral Ni (III)-thiosemicarbazone complex with cytotoxic potential. *Inorganic Chemistry Communications*, 115827.
https://doi.org/10.1016/j.inoche.2025.115827
Impact factor: 5.4
14. Rahman, A., Borah, P., Hussain, S., Sen, A., Bharalee, R., Chabukdhara, M., Upadhyaya, H. and ***Verma, A.K.** (2025). Chemical diversity of carotenoids derived from aquatic animals and their therapeutic, biomedical, and natural colorant applications. *Combinatorial chemistry & high throughput screening*. 1-22. https://doi.org/10.2174/0113862073377688250903053348
Impact factor: 1.7
15. Devi, M., **Verma, A.K.** and Singh, N.S. (2025). *In vitro* cytotoxicity of *Taxus Wallichiana Zucc*. against Dalton's lymphoma cells. *Bioinfolet*, 22(1), 15-19. https://doi.org/10.5958/0976-4755.2025.00006.X
16. **Verma, A. K***., Singh, R. K., Baidya, B., Selvaraj, G., Singh, N. S., Saikia, M., & Jahan, S. (2025). Biocompatible innovation in pearl cultivation in *Lamellidens marginalis*: Silane-coated nuclei for enhanced pearl quality and host survival. *Molluscan Research*, 1-27. https://doi.org/10.1080/13235818.2025.2565744
Impact factor: 0.6
17. Baishya, T., Boro, M., Gomila, R.M., Frontera, A., Barcelo-Oliver, M., ***Verma, A.K**., Rahman, A. and Bhattacharyya, M.K. (2025). Supramolecular assemblies in fumarato and succinato based Mn (II) and Ni (II) coordination solids involving pyridine and phenanthroline: anticancer activities and theoretical studies. Journal of Molecular Structure, 1351, 144191. https://doi.org/10.1016/j.molstruc.2025.144191
Impact factor: 4
18. Gogoi, M., **Verma, A.K**. & Singh, N.S. (2025). *Gnetum gnemon* leaf extract as a potential therapeutic agent for nephrotoxicity against Dalton's lymphoma ascites (DLA)-induced mice. International Journal of Zoology and Applied Biosciences, 10(6). Available at: http://www.ijzab.com/
19. Das, J., Aggarwal, R., Singh, N. S., & ***Verma, A. K.** (2025). Silkworm (*Bombyx mori*) pupae powder enriched cereal based media boosts *Cordyceps militaris* production: Insights from five native rice cultivars. International Journal of Entomology Research, 10(8), 3-8.
https://www.entomologyjournals.com/assets/archives/2025/vol10issue8/10239.pdf
20. Dutta, K., **Verma, A.K.** and Singh, N.S. (2025). Nutritional Composition of *Garcinia pedunculata* Roxb. Fruit and the effects of its chloroform fraction on the biochemical and hematological profiles of mice. Uttar Pradesh Journal of Zoology, 46(16), 271-281. https://doi.org/10.56557/upjoz/2025/v46i165196
21. Gogoi, M., **Verma, A.K.** and Singh, N.S. (2025). From nutritional value to safety: sub-acute toxicity assessment of *Gnetum gnemon* l. methanolic leaf extract in Swiss albino mice. Uttar Pradesh Journal of Zoology, 46(17), 42-52. https://doi.org/10.56557/upjoz/2025/v46i175208
22. Bhat, R.M., Hegde, V., ***Verma, A.K**., Singh, N.S., Muddapur, G.V. and Keri, R.S. (2025). Design, synthesis and anticancer evaluation of thiophene-based hydrazones: An integrated ADMET, DFT and molecular docking approach. *Journal of Molecular Structure*, 1349, 143962. https://doi.org/10.1016/j.molstruc.2025.143962
Impact factor: 4
23. Banik, S., Dutta, K.K., Gomila, R.M., Frontera, A., Barcelo-Oliver, M., ***Verma, A.K**., Dutta, D. and Bhattacharyya, M.K. (2025). Supramolecular assemblies in mononuclear Zn (II) and dinuclear Co (II) coordination compounds involving pyridines and methyl benzoates: Antiproliferative evaluation and theoretical studies. *Inorganica Chimica Acta*, 589, 122902. https://doi.org/10.1016/j.ica.2025.122902
Impact factor: 3.2
24. Nath, S., Deb, V.K., Baildya, N., Roy, S., Kaminsky, W., ***Verma, A.K**., Rahman, A., Mandal, A., Kanmazalp, S.D., Adhikari, S. and Saha, I. (2025). Synthesis, structural characterization, theoretical analysis, and cytotoxic evaluation of a hydrazone-based ligand and its Co (II) complex. *Inorganic Chemistry Communications*, 182, 115384. https://doi.org/10.1016/j.inoche.2025.115384
Impact factor: 5.4
25. Nath, S., Roy, S., Baildya, N., Hussain, S., Dhar, S., Mahmoudi, G., ***Verma, A.K.**, Roy, S., and Adhikari, S. (2025). Synthesis, crystal structure, theoretical analysis, anticancer properties, and molecular docking study of a dipyridyl thiourea compound. *Journal of Heterocyclic Chemistry*, 0, 1-12. https://doi.org/10.1002/jhet.70087
Impact factor: 2.4
26. Singh, R.K., ***Verma, A.K.,** Singh, N.S., Hussain, S., Talukdar, M., Wahab, A. and Jahan, S. (2025). Innovative techniques in freshwater pearl culture: assessing the impact of Poly-D-lysine coated nuclei on pearl quality and mussel survival. *Molluscan Research*, 1-12. https://doi.org/10.1080/13235818.2025.2528173
Impact factor: 0.6
27. Nath, S., Deb, V.K., Baildya, N., Roy, S., Kaminsky, W., ***Verma, A.K.,** Hussain, S., Kanmazalp, S.D., Mahmoudi, G., Azizova, A.N. and Adhikari, S. (2025). Synthesis, structural analysis, computational investigation, and cytotoxicity studies of new copper (II) coordination polymers. *Journal of Molecular Structure*, 1348, 143124.

https://doi.org/10.1016/j.molstruc.2025.143124
Impact factor: 4

28. Swargiary, A., Daimari, M. and **Verma, A.K**. (2025). Screening of antihyperglycemic and cytotoxic properties of Ficus racemosa L. Fruit extract. *In Silico Pharmacology*, 13(110), 1-16. https://doi.org/10.1007/s40203-025-00397-3
29. Banik, S., Boro, M., Gomila, R.M., Frontera, A., Barceló-Oliver, M., ***Verma, A.K.,** Hussain, S. and Bhattacharyya, M.K. (2025). Fascinating Inclusion of Coordination Complex and Unusual Non-covalent Halogen-Halogen contacts in Bipyridine-based Multicomponent and Polymeric Mn (II) Metal-organic Compounds: Antiproliferative Evaluation and Theoretical Studies. *Journal of Molecular Structure*, 1343,142815. https://doi.org/10.1016/j.molstruc.2025.142815
Impact factor: 4
30. ***Verma, A.K**., Rahman, A., Hussain, S. and Singh, N.S. (2025). Freshwater Mussels as Multifaceted Ecosystem Engineers: Insights into Their Ecological Importance, Bioindication, and Economic Contributions. *Water*, *17*(11), 1629. https://doi.org/10.3390/w17111629
Impact factor: 3
31. Hussain, S., Rahman, A., Borah, P., Sen, A., Bharalee, R., Chabukdhara, M., Upadhyaya, H. and ***Verma, A.K**. (2025). Eco-friendly Advancements through Fish Waste: A Review of Therapeutic and Industrial Innovations. *Combinatorial chemistry & high throughput screening*. 10.2174/0113862073372954250408181058
Impact factor: 1.7
32. Barman, P., Ansari, F.A., **Verma, A.K.** and Chabukdhara, M. (2025). Harvesting of microalgae using Saccharum officinarum bagasse: characterization, process optimization, and evaluation of harvesting potential. *Environmental Science and Pollution Research*, 32:14037–14048. https://doi.org/10.1007/s11356-025-36507-z
33. Dutta, U., Das, J., Goswami, M.J., Bhardwaj, S., ***Verma, A.K**. and Kakati, D. (2025). Design and synthesis of O-glycoside derivatives with promising antidiabetic and anticancer potential. *Medicinal Chemistry Research*, 34:1025-1039. https://doi.org/10.1007/s00044-025-03398-1
Impact factor: 3.1
34. Dutta, K. K., Baishya, T., Gomila, R. M., Frontera, A., Barcelo-Oliver, M., **Verma, A. K.**, Das, J., & Bhattacharyya, M. K. (2025). Supramolecular Assemblies and Anticancer Activities of Aminopyidine-Based Polynuclear and Mononuclear Co(II) Benzoates: Experimental and Theoretical Studies. *Inorganics*, *13*(2), 51. https://doi.org/10.3390/inorganics13020051
Impact factor: 3.0
35. Basumatary, Y., Kollipara, M.R., Borah, P., Verma, N., Krajewski, S., ***Verma, A.K**., Poluri, K.M., Kaminsky, W. and Rymmai, E.K. (2025). Syntheses, Characterization and Bioactivity of Half-sandwich Complexes of Ruthenium, Rhodium, and Iridium Containing Coumarin Pyrazole Benzhydrazone Ligands. *Journal of Molecular Structure*, p.141360. https://doi.org/10.1016/j.molstruc.2025.141360
Impact factor: 4.0
36. Boro, M., Dutta, K.K., Gomila, R.M., Frontera, A., Barceló-Oliver, M., ***Verma, A.K**., Dutta, K. and Bhattacharyya, M.K. (2025). Unconventional Dual Inclusion of Metal-organic Guests in Self-assembled Anion-Water Hosts and Infinite ADS-Water Assemblies in Ni (II) and Zn (II) Multi-component Compounds: Antiproliferative Evaluation and Theoretical Studies. *Journal of Molecular Structure*, 1326 (2025) 141122. https://doi.org/10.1016/j.molstruc.2024.141122
Impact factor: 4.0
37. Nath, S., Sen, T., Roy, S., Baildya, N., Borah, P., Kaminsky, W., Gargari, M.S., ***Verma, A.K**., Kanmazalp, S.D., Adhikari, S. and Saha, I. (2025). Supramolecular Co (II) complex fabricated from adenine derivative: synthesis, crystal structure, hirshfeld surface, DFT optimization, anticancer, and molecular docking Studies. *Applied Organometallic Chemistry*, 39: e7846. https://doi.org/10.1002/aoc.7846
Impact factor: 4.1
38. Barthakur, T., ***Verma, A.K**., Singh, N.S., Hussain, S. (2024). Assessment of cytotoxic and apoptotic activities of Assam propolis on Dalton's lymphoma cell line. International Journal of Entomology Research. 9: 11, 42-46. https://www.entomologyjournals.com/pdf?refno=9306
39. Dutta, D., Singh, N.S. and ***Verma, A.K.**, (2024). Genotoxicity, acute and sub-acute toxicity profiles of methanolic Cordyceps militaris (L.) Fr. extract in Swiss Albino Mice. *Journal of Ethnopharmacology*, 335, 118603. https://doi.org/10.1016/j.jep.2024.118603
Impact factor: 4.8
40. Devi, M., Singh, R.K., **Verma, A.K.**, and Singh, N.S. (2024). *In vitro* cytotoxic potential of *Clerodendrum colebrookianum* Walp. against Dalton's Lymphoma cells. *CINEFORUM*, *64*(2), 170–186. https://revistadecineforum.com/index.php/cf/article/view/111
Impact factor: 3.2

41. Begum, T., Agarwal, S., Bhuyan, P., Das, J., **Verma, A. K**., Guha, A., Ganguly, M. (2024). *Aloe vera* gel mediated green synthesis of ruthenium nanoparticles and their potential anticancer activity, Next Nanotechnology.7, 100095. https://doi.org/10.1016/j.nxnano.2024.100095
42. Mezhubeinuo, Mohanta, R., Bordoloi, H., ***Verma, A.K**. and Bez, G., (2024). L-proline H_2SO_4 catalyzed synthesis of novel coumarin-based spiroindolino-3, 4-dihydropyrimidin-2 (1 H)-ones: in vitro cytotoxic assay and molecular docking study. *Molecular Diversity*, 1-16. https://doi.org/10.1007/s11030-024-10878-w
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43. Barthakur, T., ***Verma, A.K**., Singh, N.S., Dutta, D. (2024). Chemical profiling and toxicological assessment of bee product propolis from Assam, India: Implications for health and safety. International Journal of Entomology Research. 9: 8, 154-162 https://www.entomologyjournals.com/pdf?refno=9192
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1. **United Kingdom design patent (Granted)**: Title: Cancer Detection Device. Design application number: 6302729, Grant date: 18 August 2023. Version: 14-2023. Class 24 -Medical and laboratory equipment, **Sub class** 01 - Apparatus and equipment for Doctors, Hospitals and Laboratories. **Inventors**: Verma, A.K., Mopuri, R., Singh, N., Singh, R., Sarkar, B., Bachanna, P.

2. **United Kingdom design patent (Granted)**: Title: Pearl Shaping Machine. Design application number: 6311031, Grant date: 25 September 2023. International Design Classification: Version: 14-2023 Class: 15 Machines, Subclass: 09 Machine Tools, Abrading and Founding Machinery. **Inventors**: Verma, A.K., Singh, V., Singh, P. K., Singh, R., Sarkar, B.K.
3. **Indian patent (Granted):** Title: Allantoic Cavity Drilling Device. Design No.: 395424-001, Grant date: 15/11/2023. **Inventors**: **Akalesh Kumar Verma**, Rezina Ahmed, Namram Sushindrajit Singh, Dr. Sweta Singh, Dipanjan Dey, Suraj Chetri, Lupamudra Borah, Suchi Parna Roy, Naaz Parbin Islam and Golphina Ahmed.
4. **Indian patent (Granted):** Title: Pearl Grafting Tool. Design No.: 397463-001, Grant date: 14/12/2023. **Inventors**: **Akalesh Kumar Verm**a, Devajit Basumatari, Rezina Ahmed, Shamim Rahman, Rohit Kumar Singh and Karabi Kalita.
5. **Indian design patent (Granted):** Title: Fungicide Coating Seed Treating Box. Design No.: 398482-001, Grant date: 26/10/2023. **Inventors**: Apurva Tripathi, Rutuja Nitin Sonawane, **Akalesh Kumar Verma**, Chetan Sharad Sanap, Sarada Prasad Mohapatra, Shushant Kumar Kaushik.
6. **Indian patent (Granted):** Title of invention: Animal Shell upcycling machine. **Inventors**: Verma, A.K., Shukla, R.K., Singh, S., Prasad, S.S., Ahmed, R. Application Number: 394818-001 (Cbr no.: 211360, Date: 11-09-2023). Design No.: 394818-001, Grant date: 11-09-2023.
7. **Indian patent (Granted):** Indian Design Patent No. 438210-001, issued 23 November 2024, for the Fishery Waste Recycling Machine in Class 15-99; Inventors: Rutuja More, Rashmi Sanjay More, Kunal, Neha Sharma, Smt. Sradhanjali Sahoo, Akalesh Kumar Verma, Prashant H. Pawar.
8. **Indian patent (Filed): Verma, A.K.**, Singh, N.S., Singh, S., Arjun, J., Barthakur, T., Devi, M., Dutta, D., Das, J., Dutta, K., Gogoi, M., Gogoi, R., Singh, R.K. and Paul A.K. (2023). Mother of pearl (MOP) infused pre-school learning and play kits: A multisensory approach to early education. Application Number: 202331055323, Date of filing: 17/08/2023, Publication date: 13/10/2023.
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PARTICIPATION & PAPER PRESENTATION IN NATIONAL SEMINAR/SYMPOSIUM

1. Kardong. D.,**Verma A.K**., Yadav R.N.S., Gogoi B.K., Bora T.C. Biochemical and Microbial analysis of Saimond or Po:roapong (Oral presentation) in National Seminar on Biodiversity. Organized by North East Biotechnological Consortium, IIE, Guwahati, 18th to 19th Dec 2007, pp 29.
2. **Verma, A.K**., B. Brahma., T. Rongpi., G. Rosangkima., Amenla., S.B. Prasad. Anticancer activity of different fractions of *Mylabris cichorii* extract in mice (C_3H/He) bearing ascites Dalton's lymphoma. (Poster presentation) in National Seminar on Recent Trends in Phytochemicals & Phytopharmaceuticals Research and Future Prospects. Organized by Dept. of Chemistry, Gauhati University, Gauwahati, 26th-27th March, 2010, pp 56.
3. **Verma, A.K**., S.B. Prasad and M. J. Bordoloi. Zootherapeutics potentials of a blister beetle against murine ascites Dalton's lymphoma. National Seminar on Biodiversity of North East India Issue and Concern. Organized by Regional Centre National Afforestation and Eco- Development Board, NEHU, Shillong, 22nd May, 2010, pp 5.
4. Participated in National seminar entitled" Application of radiation in medical research, organized by Department of Atomic Energy, NEIGRIHM, Shillong" India, 15th May, 2010.
5. **Verma, A.K**., S.B. Prasad and M. J. Bordoloi. Anticancer and Cytotoxic effect of *Mylabris cichorii* extract against Dalton's lymphoma ascites- induced tumor model. National Seminar on Recent Trend in traditional phytotherapy: Safety, Efficacy, Drug discovery and priority issue 16 January, Organized by: Namrup College, Dibrugarh, 2nd -3rd December, 2010, pp 21.
6. Participation in 96th Indian Science Congress, North Eastern Hill University, Shillong, 3rd -4th January, 2009.
7. **Verma, A.K**., Dhrubajyoti Gogoi, M.J. Bordoloi. Ligand-based virtual screening on some of the Anticancer Phytochemicals to develop a novel inhibitor of β-catenin against cancer. National Seminar on Recent Trend in traditional phytotherapy:

Safety, Efficacy, Drug discovery and priority issue 17 January, Organized by: Namrup College, Dibrugarh, 2nd -3rd December, 2010, pp 13.

8. **Verma, A.K**., S.B. Prasad and M. J. Bordoloi. Anticancer activity of active fraction of *Mylabris cichorii* extract *in vivo* and *in vitro.* National Seminar on Recent Advances in Synthesis and Catalysis. Organized by Department of chemistry, Dibrugarh University, 10th -12th February, 2011, pp 39.
9. **Verma, A.K**., S.B. Prasad and M. J. Bordoloi. Evaluation of Antitumor potentials of *Mylabris cichorii* (Fabr) and *cassia tora* (Lin) combined extract and their active principle(s) against murine ascites 17anuar's lymphoma. National seminar on plant resource management and conservation strategies in N.E. region. Organized by Department of Botany, Cotton College, Guwahati, 18th -19th February, 2011.
10. **Verma, A.K**., Dhrubajyoti Gogoi, M.J. Bordoloi. Virtual screening to find potent inhibitor of HSP90: An in silico approach to develop potent anticancer drug candidates. National Seminar on Recent Advances in Synthesis and Catalysis. Organized by Department of chemistry, Dibrugarh University, 10th -12th February, 2011, pp 83.
11. **Verma, A.K.** Apoptotic and anticancer activities of Cantharidin isolated from *Mylabris cichorii* (Fab), against Murine Ascites Dalton's lymphoma. 99thISCA, KIIT University, Bhubaneswar, 3rd-7th January 2012, pp 7.
12. **Verma, A.K.** Changes in glutathione and glutathione-related enzymes induces mitochondrial stress and apoptosis in the anticancer activities of cantharidin isolated from red-headed blister beetles, *Epicautahirticornis*and its mechanism of action. 100thISCA, Calcutta University, 3rd-7th January, 2013, pp 8.
13. **Verma, A.K**., S.B. Prasad. Cantharidin inhibits proliferation and induces apoptosis in Ehrlich ascites carcinoma through inhibition of Lactate dehydrogenase enzyme activity. National Seminar on Faunal Diversity and Ecophysiology. Department of Zoologyy, NEHU, 28th-29th February, 2012, pp 63.
14. **Verma A.K.** *In Silico* Drug Design. National Mathematics Day: Application of mathematics in medicine. Organized by: Cachhar Cancer Hospital and Research centre, Silchar-15, Assam, on 20th December, 2014.
15. **Verma, A.K**., S.B. Prasad. Cantharidin mediated biochemical and ultrastructural changes in mitochondria of tumor cells. National Seminar on Faunal Diversity and Ecophysiology. Department of Zoologyy, NEHU, 30 March, 2016, pp 5.
16. **Verma, A**.K. Cantharidin, a promising chemotherapeutic agent from blister beetles, *Epicauta hirticornis* triggers apoptotic cell death and cell cycle arrest in a murine malignant tumor model. Cotton University Symposium held during 27-28 January, 2017.
17. **Verma, A.**K. Traditional healing with blister beetles. National Symposium on Molecular Insect Science. Department of Entomology, Assam Agriculture University, Jorhat, Assam from 6-8 February, 2017.
18. Kataki, B., **Verma, A.K**., Singh, N.S. Changes in *Tinosporia cordifolia* extract mediated biochemical, haematological and histological parameters in Swiss albino mice. National Conference on Ethno-medicine and traditional health practices in North East Region of India. Organized by NIPER, Guwahati, Assam, India. 25th August, 2018, pp. 12.
19. Dutta, K., Singh, N.S., **Verma, A.K**. Effect of *Carica papaya* leaf extract in combination with coconut water on platelets count in chloroquine induced thrombocytopenic mice. National Conference on Ethno-medicine and traditional health practices in North East Region of India. Organized by NIPER, Guwahati, Assam, India. 25th August, 2018, pp. 64.
20. Rana, V., Singh, N.S., **Verma, A.K**. Effect of *Carica papaya* leaf extract on haematological and histopathological parameters in Swiss albino mice. National Conference on Ethno-medicine and traditional health practices in North East Region of India. Organized by NIPER, Guwahati, Assam, India. 25th August, 2018, pp. 94.
21. Saikia, S., Ahmed, R., **Verma, A.K**. *In silico* screening and molecular docking of Phytochemical compounds to identify novel beta-tubulin inhibitor(s) from the Microsporidium, Endoreticulatus sp. Zhenjiang, isolated from *Bombyx mori*. National Conference on Bioresources for Sustaining life and livelihoods in North-East India. Organized by Nowgong College, Department of Zoology, Assam, India. 4th-5th October, 2018, pp.48.
22. Barthakur, T., **Verma, A.K**., Singh, N.S., Rongpi, S. Effect of propolis methanol extract (70%) on biochemical, haematological and histopathological parameters of albino mice. National Seminar on recent advances in bio-Sciences. Organized by Department of Zoology, Pragjyotish College, Assam, India. 21st – 22th September, 2018, pp.43.
23. Boruah, M., Bhuyan, T.,**Verma, A. K**. Identification of novel natural inhibitor(s) of CCR9 using structure-based virtual screening and their wet lab validation. Organized by Down Town University, Panikhaiti, Guwahati, 10-11 November, 2018. pp32.**Best Poster award.**
24. **Verma, A. K**. and Singh, N. S. Innovation in nucleus engineering and golden freshwater designer pearl production: A first report. Assam Biotech Conclave-2022, Organized by Biotech Park, Guwahati and IIT Guwahati. May 20-22, 2022.
25. Gogoi, M, Singh, N.S, **Verma, A. K,** Dutta. K, Devi. M, Das. J, Dutta. D. *In vitro* antitumor activity of *Gnetum gnemon* leaf extract (methanol: 70%) in Dalton's lymphoma ascites bearing tumor mice. National Seminar on Emerging trends in Biological Sciences: A North East India perspective. Organized by Department of Biotechnology & Bioinformatics, NEHU,

Shillong-793022, Meghalaya, India in collaboration with Bio-Resources Development Centre (BRDC), Shillong & BioNest Bioincubator facility, NEHU, Tura Campus, Meghalaya,28th February-1st March,2023, pp 71.

26. Singh, R.K., **A.K. Verma.**, A.K. Paul and N.S. Singh. Influence of nucleus materials on nacre layer synthesis leading to high quality fresh water pearl formation. Two-Day International Seminar on Climate Change: Impact and Resilience. Organized by Department of Zoology, Assam Don Bosco University, Sonapur-782402, Assam, in collaboration with Zoological Society of Assam, 27-28th February 2023.
27. Devi, M., N.S. Singh and A.K. Verma. An in vitro approach to investigate the antitumor potential of *Phlogacanthus thyrsiformis* against Dalton's Lymphoma Ascites (DLA) cells. 67th Annual Technical session of Assam Science Society, 2023 cum National seminar on Current Developments in Science and Technology. Organized by Bhattadev University, Bajali, Pathsala,6th April,2023., pp. 56
28. Devi, M., N.S. Singh and A.K. Verma. An in vitro antitumor potential of *Adhatoda vasica* leaf extract against Dalton's Lymphoma (DL) cells. National seminar on Ethnopharmacology for Bioeconomy: The New Paradigm. Organized by CSIR-North East Institute of Science and Technology, Jorhat. SFE-Jorhat Local chapter in association with society of Ethnopharmacology, India.28th-30th November,2023., pp. 73
29. Dutta, D., **A.K. Verma** and N.S. Singh. *In vivo* assessment of the therapeutic potential of *Cordyceps militaris* methanolic extract against murine malignant cancer cell line. National Seminar on "Ethnopharmacology for Bioeconomy: The New Paradigm". Organized by CSIR-North East Institute of Science & Technology, Jorhat, SFE-Jorhat Local Chapter in association with Society for Ethnopharmacology, India, 28th-30th November, 2023., pp. 96

PAPER PRESENTATION IN INTERNATIONAL SEMINAR

1. **Verma, A.K**., S.B. Prasad and J. Arjun. Synergistic anticancer activity of *Mylabris cichorii* and C*assia tora* extract against Dalton's ascites lymphoma bearing mice. International conference on recent trend in medicinal and aromatic plant researches. Department of Life sciences and Bioinformatics, Assam University, Assam, 1-5 December, 2010, pp 63.
2. **Verma A.K.** and Prasad S.B. Blister beetles and their active compound, Cantharidin isolated from *Mylabris cichorii* (Fab), as cancer chemo-preventive agent against Ehrlich ascites carcinoma. International Seminar on Bioresources and Human sustenance. Cotton College, Guwahati, 20-22 October, 2011, pp 84.
3. Brahma B, Prasad S.B and **Verma A.K**. Anti-tumor activity of some traditional medicinal plants from Assam against murine ascites Dalton's lymphoma. International Seminar on Bioresources and Human sustenance. Cotton College, Guwahati, 20-22 October, 2011, pp 187.
4. Kalita S, Prasad S.B and **Verma A.K**. Modulatory effect of Ascorbic acid (Vitamin- C) on Chlorambucil-mediated antitumor activity against murine ascites Dalton's lymphoma. International Seminar on Bioresources and Human sustenance. Cotton College, Guwahati, 20-22 October, 2011, pp 189.
5. Prasad S.B. **and Verma A.K.** Zootherapy with blister beetle, *Mylabris cichorii and* its isolated compound, cantharidin against murine tumor model. International seminar on Natural Product Research & Development. Jadavpur University, Kolkata, 1-3 March, 2012, pp 56.
6. Kaliyappan, R.K., **Verma, A.K**., Rao, K.M. Arene ruthenium complexes containing di-(2-pyridyl) ketone 2,4-dinitrophenylhydrazone ligand: synthesis, molecular structure, anticancer activity against Ehrlich ascites carcinoma and molecular docking with cancer target protein. International Conference on Biological Inorganic Chemistry. Department of Chemistry, Periyar University, February 20-22, 2013, pp 128.
7. Prasad S.B. **and Verma A.K.** Studies on the cantharidin-mediated antitumor activity and toxicity in tumor-bearing mice. 2nd International summit on toxicology, Hampton Inn Tropicana, Las Vegas, NV, USA. October 7-9, 2013, pp115.
8. **Verma A.K.** and Prasad S.B. Cytotoxic and mutagenic effects of Cantharidin, A type of terpenoid isolated from red-headed blister beetle (*Epicauta hirticornis*) on the growth of normal and T- cell lymphoma. International Conference on harnessing natural resources for sustainable development- Global trend, Cotton College, Guwahati, Assam. 29- 31 January, 2014, pp 45.
9. **Verma A.K.**, Prasad S.B. and Arjun J. Flow cytometry-based study of cantharidin-mediated mitochondrial membrane permeabilization and cell cycle analysis in Dalton's ascites lymphoma *in vivo*. Indo-US Symposium on Clinical Hematological Malignancies, Cachar Cancer Hospital & Research Centre, Meherpur, Silchar, Assam. 8-9 February, 2014, pp 16.
10. **Verma A.K.** and Prasad S.B. Apoptotic, necrotic and autophagic effects of cantharidin, a potent antitumor compound isolated from blister beetle, *Epicauta hirticornis* and study of underlying mechanisms of action against murine T-cells lymphoma, International Conference on Entomology, Punjabi University, Patiala, India. 21-23 February, 2014, pp 47.

11. Rajeev Kumar, R. Ravi Kannan, **Akalesh Kumar Verma**, Anuradha Talukdar, Monoj Kumar Deka, Ritesh Tapkire, Litika Vermani, Sankar Kumar Ghosh. High ALDH1, S phase fraction, $p16^{INK4A}$ in esophageal squamous cell carcinoma could predict response to neoadjuvant chemotherapy [abstract]. In: Proceedings of the American Association for Cancer Research Annual Meeting 2017; 2017 Apr 1-5; Washington, DC. Philadelphia (PA): AACR; Cancer Res 2017;77(13 Suppl): Abstract nr 2788. Doi:10.1158/1538-7445.AM2017-2788.
12. **Verma A.K.** Freshwater pearl farming and surgical procedures. Special invited lecture in International virtual event "Applied Biology Research & Innovation Conference 2022 (ABRICON-22)" held during December 03-05, 2022.
13. **Verma A.K.,** Dutta D., Das J. Biological activities of *Cordyceps militaris* (Caterpillar fungus) and its bioactive compounds. Invited lecture in International Conference on "Biodiversity & Conservation-cum-Workshop on Traditional Medicine" held on 14thand 15th December, 2022 at St. Anthony's College Auditorium, Shillong.
14. Dutta, K., Singh, N.S., and **Verma, A.K.** (2022). Integrative approach of molecular docking and experimental studies to evaluate the anti-inflammatory efficacy of *Garcinia pedunculata* Roxb. Ex Buch. -Ham. fruit extract. 5th International Conference on Nutraceuticals and Chronic Diseases 2022 (INCD2022), "Pharmaceuticals and Nutraceuticals for Cancer and Other Chronic Diseases". Organized by Department of Zoology, University of Delhi, Delhi, India under UGC-Special Assistance Program, 7th-9th October, 2022., pp. 117, Taneja Sales Corporation, Delhi-110051, ISBN no: 978-81-954625-9-9.
15. Dutta. D, **A.K. Verma** and N.S. Singh. Anticancer potential of an entomophagous caterpillar fungus, *Cordyceps militaris*: An in vitro and in silico study. International Seminar on Climate Change: Impact and Resilience. Organized by Department of Zoology, Assam Don Bosco University, Sonapur-782402, Assam, in collaboration with Zoological Society of Assam, 27-28 February, 2023, pp 49.
16. Singh, R.K., **A.K. Verma**., A.K. Paul and N.S. Singh. Influence of nucleus materials on nacre layer synthesis leading to high quality fresh water pearl formation. International Seminar on Climate Change: Impact and Resilience. Organized by Department of Zoology, Assam Don Bosco University, Sonapur-782402, Assam, in collaboration with Zoological Society of Assam, 27-28th February 2023, pp 54. **Best Poster award.**
17. Dutta, K., Singh, N.S., and **Verma, A.K.** (2024). Evaluation of the anti-tumor activity of the bioactive fraction of Garcinia pedunculata (Roxb) fruit against Dalton lymphoma ascites tumor model. International Conference on Traditional Medicine & Phytopharmaceuticals (ICTMP) & 11th International Congress of Society for Ethnopharmacology (SFEC 2024), "Ethnopharmacology in Development of Phytopharmaceutical Drugs". Jointly organized by CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu (J&K), India and Society for Ethnopharmacology (India), 16th-18th February, 2024., pp. 190.
18. Dutta, K., Singh, N.S., and **Verma, A.K.** (2024). *In-vivo* anti-tumor activity of the bioactive fraction of Garcinia pedunculata (Roxb) fruit against Dalton's lymphoma ascites tumor. International Conference on Traditional Knowledge, "Exploring Traditional Knowledge: Bridging Past and Future". Organized by Nowgong College (Autonomous) Nagaon, Assam, India, 22nd-23rd March, 2024., pp. 26.
19. Gogoi, M., Singh, N. S and **Verma, A.K**. (2024). Antitumor activity of *Gnetum gnemon* leaf extract in Dalton's lymphoma (DLA) bearing mice models. International Conference on "Traditional Knowledge (Exploring Traditional Knowledge: Bridging Past and Future) ". Organized by IQAC, Nowgong College (Autonomous) (Upgraded to Nagaon University, Nagaon-782001, Assam in collaboration with Research and Development Cell, Nowgong College (Upgraded to Nagaon University), 22nd-23rd March, 2023., pp. 30, Ajanta Press, Nagaon, Assam.
20. Singh, R. K., **Verma, A. K.**, Talukdar, M., & Singh, N. S. (2024). Novel method in nucleus engineering leading to improved nacre secretion during pearl nucleation in freshwater mussels. International Conference on Traditional Knowledge "Exploring Traditional Knowledge: Bridging Past and Future". Organized by Nowgong College (Autonomous) Nagaon, Assam, India, 22nd -23rd March, 2024., pp. 118.

INVITED LECTURE/RESOURCE PERSON

INTERNATIONAL (IN COUNTRY):

1. **Verma, A.K.** Antibody microarray and computational approaches in target identification and drug discovery. In 20th INDO-US Flow Cytometry Workshop Symposium on Advanced Molecular Techniques. Organized by Cachar Cancer Hospital and Research Centre, Silchar, Assam, India, March 24th -27th, 2019.
2. **Verma A.K.** Development of training needs assessment package including development of selected training modules aiming at climate-resilient management of aquatic resources in the North Eastern Region of India" on 8th December 2022. Organized by The Ministry of Environment, Forest & Climate Change (MoEFCC), Government of India, in partnership with

Deutsche Gesellschaft für International Zusammenarbeit (GIZ) is implementing an Indo-German Technical Cooperation project.

3. **Verma A.K.** Freshwater pearl farming and surgical procedures. Special invited lecture in International virtual event "Applied Biology Research & Innovation Conference 2022 (ABRICON-22)" organized by: Indian Consortium for Research & Innovation in Biology (ICRIB), Chandigarh, India and held during December 03-05, 2022.
4. **Verma A.K.** Biological activities of *Cordyceps militaris* (Caterpillar fungus) and its bioactive compounds. Invited lecture in International Conference on "Biodiversity & Conservation-cum-Workshop on Traditional Medicine" held on 14th and 15th December, 2022 at St. Anthony's College Auditorium, Shillong.
5. **Verma A.K.** 3rd International Conference on Multidisciplinary Research and Innovation on 23rd & 24th October, 2025. The theme of the conference is "Sustainability Development Goals (SDG 2030), organized by: St. Joseph University, Nagaland, India.

NATIONAL:

1. **Verma, A.K.** Fundamentals in Bioinformatics and its Application. Organized by Institutional Biotech Hub, Namrup College from 27th-31st, March, 2017.
2. **Verma, A.K.** Fresh water pearl culture, in one-week workshop on skill development and career opportunities in biological sciences. Organized by: B. Borooah College, Date:19thto 24th July, 2021.
3. **Verma, A.K.** Fresh water Pearl culture and human resource development organized by Department of Science and Technology (DST) Government of India and State Council of Science, Technology & Environment (SCSTE), Meghalaya "Celebration of Vigyan Utsav as part of the Azadi ka Amrit Mahotsav". Date: 20th October, 2021.
4. **Verma A.K.** Workshop on freshwater pearl farming for entrepreneurship development. Invited by Department of Zoology, University of Science & Technology Meghalaya (USTM), 10th December 2022.
5. **Verma A.K.** Entrepreneurship development workshop on "Freshwater pearl farming cum livelihood generation "held on 17th and 18th February, 2023 at Department of Zoology, University of Science & Technology Meghalaya (USTM).
6. **Verma A.K.** A Value-Added Course on "Surgical Procedure of designer pearl farming" held on 11th March, 2023 at Department of Zoology, University of Science & Technology Meghalaya (USTM).
7. **Verma A.K.** Entrepreneurship Development in Pearl Farming, held on 31st March 2023, Organized by Department of Zoology, St. Joseph University, Nagaland.
8. **Verma A.K.** Pearl culture in Freshwater Mussels, held on 12-13 May 2023, Organized by Department of Zoology, B Borooah College, Guwahati-07, Assam.
9. **Verma A.K.** Fresh waterPearl culture for Entrepreneurship Development (Golden Jubilee Lecture Series), held on 13 October 2023, Organized by Department of Zoology, Pub Kamrup College, Baihata Chariali, Kamrup-81, Assam.
10. **Verma A.K.** Sustainable Practices in Freshwater Pearl Farming, held on 20th February 2024, Organized by Advanced Level Institutional Biotech Hub, B. Borooah College in collaboration with IQAC, B. Borooah College. In a five days' workshop on "Research Methodology in Biological Sciences" during 20th February to 24th February 2024.
11. **Verma A.K.** North East Startup and Entrepreneurs Conclave, Organized by North East Centre for Technology Application and Reach (NECTAR), DST, Govt. of India. Venue: Kalakhetra, Guwahati, Date: 27-28 March 2024.
12. **Verma A.K.** One day workshop in Pearl Farming. Organized by Department of Zoology, Assam Don Bosco University, Assam. Date: 09-05-2024.
13. **Verma A.K.** Fresh water Pearl farming cum entrepreneurship development. Organized by: Assam University, Silchar, Assam. Event: SCIENTIA_5.0, An Annual Science Festival organized by the students and scholars of Science Block, Assam University, Date: 30th and 31st May 2024.
14. **Verma A.K.** Workshop on Pearl Culture. Organized by: Handique Girls College, Guwahati, Department of Zoology and Economics. October 4, 2024.
15. **Verma A.K.** Invited lecture on "Freshwater Pearl Farming and Societal Development: Economic Diversification for Farmers, Startups, and Entrepreneurship". Malaviya Mission Teacher Training Programme, organized by: Inter University Centre for Astronomy and Astrophysics, Pune, Maharashtra, entitled: National Education Policy Orientation & Sensitization. 16-24 September, 2024.
16. **Verma A.K.** Invited lecture on Two days Teacher training Program on Pearl culture, induced breeding in fish & Mushroom cultivation. Organized by: G.P. Women's College& SCERT, Govt. of Manipur, Imphal-01. Date: 14-15 January 2025.
17. Invited Lecture on Freshwater pearl Culture, Organized by: Department of Zoology, Girijananda Chowdhury University, Assam. 24 February, 2025.
18. Invited Lecture on two days' workshop on Pearl Culture Techniques organized by The Business Incubation Centre for Fisheries and Aquaculture (BICFA) at Guwahati Biotech Park (GBP) & Cotton University, Assam. March 12-13, 2025.
19. Invited lecture on two days' workshop on "Entrepreneurship Development Program on Fresh water Pearl Culture" for UG/PG students from 28th–29th November, 2025. Organized by Pandu College, Pandu, Guwahati, Assam.
20. Invited lecture and resource person on a two days' program on "Community Mobilization and Sensitization for Freshwater Pearl Farming: A Two-Day Entrepreneurship Bootcamp on Livelihood Opportunities" from 24th–25th April, 2026.

Organized by Entrepreneurship Development Cell (EDC), Shillong College at Kordor Resort, Nongmahir, Meghalaya and sponsored by Prime Meghalaya.

21. Invited lecture and lead Resource Person for a two days' training program on "Hands-on training in freshwater pearl culture techniques" for selected local Self-Help Groups (SHGs) under NRLM 29-30 May, 2026. Organized by the Office of the Block Development Officer, Mawpat C & RD Block, Mawpat, Meghalaya.

AWARDS/HONOURS/APPRECIATIONS/FELLOWSHIPS

1. **Recognized among the Top 2% Scientists** in the World (201420), as per the list published by Stanford University & Elsevier (2025). https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/8
2. **Recognized among the Top 5%** Scientists in the Global Scientist Index 2025 (#1,340,825). https://top5percentscientists.com/?query=Akalesh+K.+Verma
3. **ISCA** (Indian Science Congress Association) Young Scientist Award for the year 2012-2013
4. **Indo-US Exchange Fellowship Award**- February, 2015 (Post Doctoral Fellowship) at Morehouse School of Medicine, Department of Microbiology, Biochemistry and Immunology, Atlanta, Georgia, USA.
5. **Governor Excellent Award** for the year 2020 for best research publications under the category of Science, Organized by Cotton University, May 21st 2022; Chief Guest Governor of Assam, Prof. Jagdish Mukhi.
6. **Talent Search Contest Award-2019** by Guwahati Biotech Park (DBT), Startup Assam and Science & Technology Department, Govt. of Assam (Venue: Assam startup-The Nest, Ambari, Guwahati) entitled "Entrepreneurs development through cultivation of *Cordyceps militaris* and its spawn: The most expensive fungus in the world and development of economically viable synergistic nutraceutical formulations thereof"in GBP's Talent search contest on 20th Nov, 2019.
7. **Talent Search Contest Award-2021** by Guwahati Biotech Park (DBT) and Science & Technology Department, Govt. of Assam entitled "Development of innovative method for nucleus design and implantation in pearl oyster followed by community mobilization and sensitization for the freshwater pearl culture leading to entrepreneurship development" in GBP's Talent search contest on 6th March, 2021.
8. **Assam Startup: Cohort-4:** Selected as one of the incubates in fourth batch under the Assam Startup COHORT 4.0 programme 2022 (Sep 22, 2022), Topic: Color Designer Pearl Farming. An initiative by the Industries & Commerce Department, Government of Assam in association with IIM Calcutta Innovation Park.
9. **Recognition of startup** by North East Entrepreneurship Development Program (NEEDP), IIM Calcutta Innovation Park, Joka, Diamond Harbour Road, Kolkata 700104. Registration number: BR103557MC, Startup name: BudEDU Tools, Date: 15 March 2023.
10. **Wiley Top Cited Article 2021-2022 Award**. Chemical Biology & Drug Design Journal. Repurposing potential of FDA-approved and investigational drugs for COVID-19 targeting SARS-CoV-2 spike and main protease and validation by machine learning algorithm. Among work published in an issue between 1 January 2021-15 December 2022. By: Wiley, Global Leader in Publishing, Education and Research, New Jersey, United States.
11. **Highly cited author award** for the year 2021 by Royal Society of Chemistry, USA for publishing research in the top 5% of highly cited works from Indian institutions, dated 06 Jun 2022.
12. **Product developed:** A nutraceuticals herbal product (*fssai*: Lic. No: 20819003000138) is released into market in the month of September, 2019. The work was carried out between Department of Zoology, Cotton University and Cosmic Farm, Faridabad, India (Under MOU). All the products are presently available in IndiaMART (https://www.indiamart.com/cosmiccordycepfarms/herbal-capsules.html#)
13. M.Sc. (Life Sciences), **First class First** in Zoology, 2007.
14. **UGC Research Fellowship Award**, November, 2009.
15. **UGG Meritorious Fellowship Award** in science for meritorious student F-4-1/2006(BSR)/5- 120/2007(BSR), Dated 20th January'2009.
16. **Best poster presentation Award:** Akalesh Kumar Verma, 2012, Cantharidin inhibit proliferation of Dalton's lymphoma by inhibition……. enzymes activity, North Eastern Hill University in a National seminar on Faunal Diversity and Ecophysiology, 28th -29th February, 2012.
17. **Best poster presentation award:** Monikongkona Boruah, Tandralee Bhuyan, Akalesh K. Verma. Identification of novel natural inhibitor(s) of CCR9 using structure-based virtual screening and their wet lab validation. Organized by Down Town University, Panikhaiti, Guwahati, 10-11 November, 2018. pp32.

18. **Winner of Ideathon # 2:** Bio-Innovation Challenge-2022, "Topic: Innovative in nucleus design and implantation in pearl oysters, followed by community mobilization and sensitization for pearl farming leading to entrepreneurship development". Dec 30, 2022 Organized by National Institute of Pharmaceutical Education and Research Guwahati (NIPER-G) Sila Katamur, Changsari, Kamrup -781101, Assam, India.
19. **Best poster presentation award:** Singh, R.K., **A.K. Verma.**, A.K. Paul and N.S. Singh. Influence of nucleus materials on nacre layer synthesis leading to high quality fresh water pearl formation. Two-Day International Seminar on Climate Change: Impact and Resilience. Organized by Department of Zoology, Assam Don Bosco University, Sonapur-782402, Assam, in collaboration with Zoological Society of Assam, 27-28th February 2023.
20. **Winner of FAME Biotech 2.0 Hackathon. Title:** Development of educational and learning tools for kids using freshwater mussel's shell: An effort towards waste-to-wealth management and circular economy. (Ideation & Prototype Stage), Organized by: Institute of Advanced Study in Science and Technology (IASST), Vigyan Path Garchuk, Paschim, Boragaon, Guwahati, Assam 781035, on 26th April 2023, at IASST Auditorium.
21. **Best poster presentation award:** Dutta, D., **A.K. Verma** and N.S. Singh. *In vivo* assessment of the therapeutic potential of *Cordyceps militaris* methanolic extract against murine malignant cancer cell line. National Seminar on "Ethnopharmacology for Bioeconomy: The New Paradigm". Organized by CSIR-North East Institute of Science & Technology, Jorhat, SFE-Jorhat Local Chapter in association with Society for Ethnopharmacology, India, 28th-30th November, 2023.

PHD STUDENTS GUIDED

PHD STUDENTS AWARDED THESIS

1. **Bandita Baruwa (ZOO1791002), 2024.** Assessment of the antitumor activity and toxicity of *Tinospora cordifolia* (Willd.) Hook F. Thoms. Extracts in murine tumor model. Department of Zoology, Cotton University.
2. **Diksha Dutta (ZOO1891004), 2025**. Antitumor potential and toxicity of *C. militaris* (Linn.) extracts in murine tumor model and isolation of bioactive principle thereof. Department of Zoology, Cotton University.
3. **Trinayan Barthakur (ZOO1791004), 2025.** Study of anti tumour activity and toxicity of propolis in Dalton's Lymphoma Ascites bearing mice. Department of Zoology, Cotton University.

PHD STUDENTS SUBMITTED THESIS

1. **Jumi Das (ZOO1991002)**, 2026. Evaluation of anti-tumor potential of cordycepin (*Cordyceps militaris* L.) in Dalton's ascites lymphoma bearing mice model.
2. **Rohit Kumar Singh (ZOO2191001), 2026.** Comparative Study of the Pearl-Producing Potential of Freshwater Mussels (Unionidae) from Different Parts of Assam. Department of Zoology, Cotton University. **Pre-submission seminar completed.**

PHD STUDENTS WORKING

1. **Rohit Kumar Singh (ZOO2191001).** Comparative study of the pearl-producing potential of freshwater mussels (Unionidae) from different parts of Assam: A study in natural and laboratory settings.
2. **Pranab Borah (BOT2391002).** Investigation of antihyperglycemic properties, related blood biochemistry and histological profile of some indigenous plants bioactive fraction(s) in streptozotocin induced rats.
3. **Saddam Hussain (ZOO2591013)**. Isolation, characterization and antitumor potential of active fraction(s) of *Leiodon cutcutia* tissue extract in murine T- cell lymphoma with toxicological evaluation.
4. **Tabu Borthakur (ZOO2591015).** Influence of anatomical grafting sites on biomineralization and pearl quality in *Lamellidens marginalis* (Lamarck, 1819).

FELLOWS OF SCIENTIFIC SOCIETIES

1. Life Member of Assam Science Society (Established: 1953), Guwahati, Assam. Sl. no. 1805, Membership no. 6604 on 07-11-2022.
2. Life Member of "International Organization for Academic and Scientific Development (IOASD)", Membership ID: FMIOASD-109/D/2024. Date of Issue: 22/04/2024. Website: https://ioasd.org/dignitary-fellows/

ORGANIZED SEMINARS/WORKSHOPS/TRAININGS

1. Organizing member of Indo-US Clinical Cytometry Symposium and wet labs on Hematological Malignancies: Challenges & Management Strategies, 8th -9th February, 2014, Organized by: Dr. S. Krishnamurthi Centre for Research & Education in Cancer, Cachar Cancer Hospital & Research Centre, Silchar, Assam, India.
2. Organizing member of Workshop on Grossing of Surgical Specimens and standard reporting in Oncology, 24th -25th November, 2014. Organized by: Department of Pathology, Cachar Cancer Hospital & Research Centre, Silchar, Assam, India and National Cancer Grid, India.
3. Convener in a training program on Hands on training on flowcytometry data analysis & interpretation, 21st – 23rd23 January, 2015, Organized by: Dr. S. Krishnamurthi Centre for Research & Education in Cancer, Cachar Cancer Hospital & Research Centre, Silchar, Assam, India.
4. Jt-Convener in a National Conference on "National Seminar on Recent advances in Zoological research and Integrative biology", 27-28 February, 2017 at Cotton University, Assam India.
5. Jt-Convener in a National Workshop on "Hands on training in basic cellular and bioinformatics techniques". 24-25 February, 2017 at Cotton University, Assam India.
6. Jt-Convener in a National Conference on "National Conference on Green, Sustainable and Evolving Sciences (GSES-2019) during 28-29 June, 2019 at Cotton University, Assam India.
7. Convener in National webinar on Pearl culture technology cum entrepreneurship development, 9-10 September, 2021, organized by Department of Zoology, Cotton University, Guwahati, Assam.
8. Convener in National Training Program on "Freshwater Pearl Culture for Entrepreneurship Development": Phase-I, Organized by: Department of Zoology, Cotton University, Guwahati, Assam-01&Indian National Pearl Culture Society, Assam, India. Date of Training– 21-23 October, 2022.
9. Convener in National Training Program on "Freshwater Pearl Culture for Entrepreneurship Development": Phase-II, Organized by: Department of Zoology, Cotton University, Guwahati, Assam-01&Indian National Pearl Culture Society, Assam, India. Date of Training– 11th, 12th and 13th November, 2022.
10. Convener in Training program on "Freshwater Pearl Culture for Entrepreneurship Development". Organized by: Department of Zoology, Cotton University, Guwahati-01, Assam, India. A special social welfare program focusing primarily on women empowerment. Date: 8th March 2024.
11. Convener in the workshop on Advance Drug Designing (Package: Discovery Studio, Dassault) Supported by Department of Biotechnology (DBT) Govt. of India. Venue: Cotton University, Organized by the Faculty of Life Sciences. April 4th & 5th, 2024.
12. Convener in the Training Program on "Freshwater Pearl Farming". Organized by the Department of Zoology, Cotton University, 28-29 Nov 2024.
13. Convenor in Workshop on Molecular Biology, Bioinformatics and Biological data analysis. Supported by Department of Biotechnology (DBT) Govt. of India, 15th, 16th & 17th October 2025, organized by: Central Instrumentation Facility (CIF), Faculty of Life Sciences, Cotton University.
14. Convenor in Workshop on "Workshop on *In Silico* Drug Designing" Supported by Department of Biotechnology (DBT) Govt. of India, 3-4 November 2025, organized by: Central Instrumentation Facility (CIF), Faculty of Life Sciences, Cotton University.
15. Convenor in Workshop on "Farmer's Training on Freshwater Pearl Farming" Supported by Directorate of Fishery, Ranchi (Jharkhand, India). Date: 7-10 November, 2025, Organised by Department of Zoology, Cotton University.
16. Convenor in Workshop on "Farmer's Training on Freshwater Pearl Farming" Supported by Directorate of Fishery, Ranchi (Jharkhand, India). Date: 21-23 November, 2025, Organised by Department of Zoology, Cotton University.
17. Convenor in Scientific Event on "Stronger Together: Scientific Engagement Featuring Beyond Genomics: Decoding the Power of Single Cell Multiomics and Demystifying Flow Cytometry: From Light to Insight", supported by Waters Biosciences (formerly BD Biosciences). Date: 22 May, 2026, organized by Central Common Facility (CCF), Cotton University, established under the DBT Builder Scheme, at Cotton University, Guwahati, Assam, India.

ESTABLISHMENT OF ACADEMIC SOCIETY

The **Indian National Pearl Farming Society (INPFS)** is a non-profit organization whose mission is to promote freshwater pearl farming as a viable means of livelihood among Indian farmers, women, startup, entrepreneurs, students, and unemployed youth. Established in 2021 (A/F registration). Founder &President: Dr. Akalesh Kumar Verma, Assistant Professor, Cotton University, Assam, India. **https://sites.google.com/view/indiannationalpearlfarmsoc/home**

SOCIAL AWARENESS/SERVICES UNDERTAKEN

1. Social awareness on freshwater pearl culture technology cum entrepreneurship development. Served as a Convener& organized National webinar on "Pearl culture technology cum entrepreneurship development", 9-10 September, 2021, Venue: Department of Zoology, Cotton University, Guwahati, Assam.
   Weblink of event:
   https://zoology.cottonuniversity.ac.in/notification_details?p=N0Q3QzFkeWZtb05IMlNER2hzU3J5dz09
   The Aim of the event was to increase the awareness and to encourage farmers, students, unemployed youths, Startup and entrepreneurs for freshwater pearl culture. More than 300 participants were attended the event.
2. **Nominated working member of Unnat Bharat Abhiyan, Cotton University, Guwahati, Assam.**
   The Aim of this program is to update nearby villagers/farmers (Guwahati area) about new technology of agriculture and farming. We also train them about technique of pearlfarming, mushroom cultivation, and value addition in agricultural products. The team is also involved in mega plantation drive on environment day.
3. **Establishment of Academic Society**: **The Indian National Pearl Farming Society (INPFS)** is a non-profit academic organization whose mission is to promote freshwater pearl farming as a viable means of livelihood among Indian farmers, students, and unemployed youth. Established in 2021 (A/F registration). Founder &President: Dr. Akalesh Kumar Verma, Assistant Professor, Cotton University, Assam, India
   Website: https://sites.google.com/view/indiannationalpearlfarmsoc/home
4. **Product developed:** A nutraceuticals herbal products (*fssai*: Lic. No: 20819003000138) is released into market in the month of September, 2019. The work was carried out between Department of Zoology, Cotton University and Cosmic Farm, Faridabad, India (Under MOU). All the products are presently available in IndiaMART (https://www.indiamart.com/cosmiccordycepfarms/herbal-capsules.html#)
5. **Human Resource Development:** Hands-on training to UG & PG students, Cotton University about pearl culture technology.

ACADEMIA INDUSTRIES-INTERFACE (MOU/MOA)

Sl. No.	MoU / Agreement Between	Purpose	Name of PI / Co-PI / Incubatee
1	Bio-NEST NIPER Guwahati Incubation Centre **AND** Dr. Akalesh Kumar Verma	To grant permission to the incubatee to use a designated facility (C3 in the common lab) and support services for Technological Research & Development and its commercialization.	Dr. Akalesh Kumar Verma (Incubatee)
2	Zoology Department, Cotton University, Assam **AND** Bengal Pearl Farming, West Bengal	To establish a cooperative relationship and mutual assistance in freshwater pearl farming research, training, workshops, and faculty/student exchanges.	Dr. Akalesh K. Verma (Assistant Professor, Department of Zoology)
3	Zoology Department, Cotton University, Assam **AND** Cosmic Cordycep Farm, Haryana	To establish a cooperative relationship through mutual assistance in health-related collaborative research (including Cancer, Hepatitis-B, Antidepressant, and anti-diabetic research).	Dr. Akalesh K. Verma (Assistant Professor, Department of Zoology)
4	North East Centre for Technology Application & Reach (NECTAR) **AND** Dr. Akalesh Kumar Verma	Implementation of the project: "Innovation in colored pearls production, and community mobilization and sensitization for the freshwater pearl culture leading to entrepreneurship development in North East India".	Dr. Akalesh Kumar Verma (PI)
5	Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India **AND** Cotton University, Guwahati, Assam	To support the "DBT-BUILDER-Cotton University Interdisciplinary Life Science Programme for Advance Research and Education" project, focusing on the assessment and documentation of important medicinal plant resources of Arunachal Pradesh with possible biological activities.	Prof. Ramesh Chandra Deka (Coordinator) and Dr. Akalesh Kumar Verma (Co-PI)
6	lIM Calcutta Innovation Park (IMCIP) & NEEDP **AND** Dr.	Pre-Incubation Agreement for the North East Entrepreneurship Development	Dr. Akalesh Kumar Verma & Dr. Namram Sushindrajit Singh

	Akalesh Kumar Verma	Program (NEEDP): Startup project: BudEDU Tool.	
7	ISVEC (IASST Social Venture & Entrepreneurship Council), an Incubation Centre set up under the aegis of IASST **AND** Dr. Akalesh Kumar Verma	FAME-2.0 Hackathon project: Technology Research & Development and its commercialization.	Dr. Akalesh Kumar Verma

BARCODE GENE SEQUENCE SUBMITTED TO NCBI

Sl. No.	Scientific Name and Family	Common Name	Collected Location	Barcode Gene Sequenced	Submitted to NCBI but not yet public
1	*Garcinia morella* (Gaertn.) Desr. (Clusiaceae)	Kuji Thekera	Dhemaji	trnL-trnF region	Yes (PX508488)
2	*Zingiber purpureum* Roscoe (Zingiberaceae)	Borahu Ada	Dhemaji	trnL-trnF region	Yes (PX508481)
3	*Garcinia xanthochymus* Hook.f. ex J.Anderson (Clusiaceae)	Tepor Tenga	Dhemaji	RbcL	Yes (PX508487)
4	*Solena heterophylla* Lour. (Cucurbitaceae)	Belipoka	Arunachal Pradesh	trnL-trnF region	Yes (PX508482)
5	*Cryptolepis buchananii* R.Br. ex Roem. & Schult. (Apocynaceae)	Harijura Lota	Arunachal Pradesh	trnL-trnF region	Yes (PX508483)
6	*Zingiber officinale* cv. Moran (*Zingiberaceae*)	Moran Ada	Dhemaji	trnL-trnF region	Yes (PX508485)
7	*Clerodendrum colebrookeanum* Walp. (Lamiaceae)	Nefaphu	Arunachal Pradesh	trnL-trnF region	Yes (PX508484)
8	*Guilandina bonduc* L. (Fabaceae)	Letaguti	Dhemaji	trnL-trnF region	Yes (PX508486)
9	*Flemingia strobilifera* (L.) W.T.Aiton (Fabaceae)	Makhivoti	Dhemaji	trnL-trnF region	Yes (PX508480)

M.SC. PROJECT GUIDED

1. **Monmi Phukan** (Enrolment No: ZOO1563021); successfully completed M.Sc. project report on the "Study of refinery effluents induced biochemical and histopathological changes in gills of freshwater air-breathing fish *Channa punctatus* (Bloch 1973)", Year-2017; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
2. **Bidisha Kataki** (Enrolment No: ZOO1662019); successfully completed M.Sc. project report on "Giloy (*Tinospora Cordifoloa*) Extract mediated biochemical, Haematological and Histological alteration in mice", Year-2017; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
3. **Santana Saikia** (Enrolment No: ZOO1562024); successfully completed M.Sc. project report on "Homology modelling and docking studies of beta tubulin protein from the microsporidium, *Endoreticulatus sp.* Zhenjiang from *Bombyx mori*", Year-2017; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
4. **Drishtirupa Phukan** worked as a winter trainee (Internship) under SERB-Fast Track Scheme (ECR/2026/000079), DST, and Government of India. A project report on "Structure based virtual screening and molecular docking for the identification of potential inhibitors against highly expressed CCR9 in prostate cancer", Year-2018; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
5. **Sunny Rongpi** (Enrolment No: ZOO1662020); successfully completed M.Sc. project report on "Study of phytochemical composition of propolis extract and its effect on hematological and histological parameter in mice", Year-2018; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
6. **Darshana Madhukalya** (Enrolment No: ZOO1762015); successfully completed M.Sc. project report on "Study of phytochemical and biological activity of black rice, Chankhao Amubi in Swiss Albio mice", Year-2019; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.

7. **Anubhuti Das** (Enrolment No: ZOO1762021); successfully completed M.Sc. project report on "Study of Phytochemical composition of Methanolic extracts of *Purkia timoriana,* Pericarp and biochemical activity", Year-2019; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
8. **Lupamudra Borah** (Enrolment No: ZOO1762020); successfully completed M.Sc. project report on "Study of Structure based virtual screening and molecular docking for identification of bioactive phytochemicals against *Callosobrachus chinensis",* Year-2019; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
9. **Antariksha Das** (Enrolment No: ZOO1862012); successfully completed M.Sc. project report on "Use of novel plant derived cytological dye for staining blood and cancer cells", Year-2020; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
10. **Silpi Sikha Borah** (Enrolment No: ZOO1862023); successfully completed M.Sc. project report on "Study of plants derived dye for cytological staining", Year-2020; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
11. **Swapnil Dey** (ZOO1962024), successfully completed M.Sc. project report on "A review on the role of chemokines in breast cancer pathogenesis: an insight into its functional aspect and therapeutic approaches". Year: 2021; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
12. **Bishal Bigya Kashyap** (Enrolment No: ZOO2062006); successfully completed M.Sc. project report on "Comparision of the extent of attachment of different nucleus on freshwater mussels (*Lamellidens corrianus*)", Year: 2022; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
13. **Annyesha Chakraborty** (Enrolment No: ZOO2062023); successfully completed M.Sc. project report on "Study of effects of *Monopterus cuchia* (Hamilton, 1822) Skin extract on wound healing process in mice", Year-2022; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
14. **Rushmita Kalita** (Enrolment No: ZOO2062027); successfully completed M.Sc. project report on "TargetingBCL-2 and JAK-2 proteins receptors of Lymphoma with Phytochemicals: An *In-silico* Approach*"*, Year-2022; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
15. **Mamtaz Hussain** (Enrolment No: ZOO2062025); successfully completed M.Sc. project report on "Role of temperature in designer freshwater pearl formation in *Lamellidens marginalis* (Lamarck, 1819)", Year-2023; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
16. **Mina Brahma** (Enrolment No: ZOO2162030); successfully completed M.Sc. project report on "Comparison of red blood cell morphometric and haemoglobin concentration in different eco- niche fishes", Year-2023; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
17. **Borsha Borah** (Enrolment No: ZOO2162006); successfully completed M.Sc. project report on "The effect of polluted water effluent on the histological parameter and study of neurons, lipids and dye absorbance of fresh water mussels", Year-2023; Guided by **Dr. Akalesh Kumar Verma**, Department of Zoology, Cotton University.
18. **Bhuyashi Baidya**, a student of Department of Zoology, PSGR Krishnammal College for women, Tamil Nadu, India successfully completed her M.Sc. project work (Internship) on "Optimizing pearl cultivation techniques: Evaluating the role of coated and uncoated nuclei in freshwater designer pearl production"; Year-2024; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
19. **Mahua Shil (Enrolment no: ZOO2262019)**; successfully completed M.Sc. project work on "Exploring the anticancer effect of the methanolic extract of *Curcuma aromatica* rhizomes: *In vitro* study on DLA cells and toxicity assessment in murine model" Year 2024; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
20. **Bhagyashree Talukdar (Enrolment no: ZOO2262002)**; successfully completed M.Sc. project work on "Exploring the economic viability and technological advances in designer pearl production using freshwater mussels" Year 2024; Guided by **Dr. Akalesh Kumar Verma**, Department of Zoology, Cotton University.
21. **Abhinandan Choudhury (Enrolment no: ZOO2262002);** successfully completed M.Sc. project work on "Investigating the anticancer potential of methanolic extract of *Cyperus rotundus* rhizome: *In vitro* analysis on DLA cells and toxicity evaluation in mouse model" Year 2024; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
22. **Akash Kumar Phukan** (**Enrolment no: ZOO2462004**) successfully completed M.Sc. project work on "Study the diversity, morphology, and histology of fresh water mussels in the district Dibrugarh" Year 2026; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.
23. **Nishita Deka** (**Enrolment no: ZOO2462020**) successfully completed M.Sc. project work on "Ammonia stress on freshwater mussel species, *Lamellidans marginalis*" Year 2026; Guided by Dr. Akalesh Kumar Verma, Department of Zoology, Cotton University.

FACULTY DEVELOPMENT PROGRAM

Sl. No.	Name of the Course	Duration (From – To)	Conducting Institute /HRDC
1	Orientation Program	29thMay–25th Jun, 2017	HRDC-Gauhati University
2	Refresher Course in Life Sciences	17th – 30th October, 2019	HRDC-Gauhati University
3	Faculty Development Program on "Basic and advanced Proteomics Approaches".	15th– 26th February 2021	IIT Bombay
4	One-week national workshop on "Fresh water Pearl culture and management"	12-21 February 2021	ICAR-CIFA, Odisha
5	International Workshop on "Tools and Techniques to Perform Molecular Modelling and Computer-Aided Drug Design" (MMTT-2021).	11-17 January, 2021	National Institute of Pharmaceutical Education and Research Guwahati (NIPERG), Changsari, Kamrup, Guwahati 781101, Assam (India).
6	Faculty Development Program on ICT Tools for Effective Teaching and Learning	14th– 18th March 2022	Tezpur University
7	Faculty Development Program on "Understanding, scouting, protecting and utilizing Intellectual Property from North East"	23rd– 27thMay 2022	NECTAR & TIFAC
8	National level Faculty Development Program on Research Methodology using ChatGPT and AI Tools.	21st– 29th September 2023	PG Department of Computer Application, IQAC and Lincoln University College Marian Research Centre (LUCMRC) in association with Kerala State Higher Education Council (KSHEC).
9	One-week national workshop on intellectual property rights, academic ethics, and innovation for entrepreneurship development (NWIPR-2023).	6th-10th November 2023	Handique Girls' College and Patent Information Centre (PIC), ASTEC.
10	Three months Certificate course in 2D & 3D designing in AUTOCAD.	January-March 2024	Computer Education Centre (CEC), Maligaon, Guwahati-12, Assam
11	Refresher course: Two Weeks (12 Days, Online) Refresher Course in Life Sciences Organized by UGC -Malaviya Mission Teacher Training Centre (UGC-MMTTC), Central University of Kerala.	20.01.2025 to 01.02.2025	UGC -Malaviya Mission Teacher Training Centre (UGC-MMTTC), Central University of Kerala

DATA SUBMITTED

1. Crystallographic data for the structure analysis of 2,6-Dimethyl-4,10-dioxatricyclo-[5.2.1.$0^{2,6}$]decane-3,5-dionehas been deposited with the Cambridge Crystallographic Data Center, CCDC No. 835281. Director, CCDC, 12 Union Road Cambridge CB2 1EZ UK (fax: +44 1223 336033; email: deposit@ccdc.cam.ac.uk; http://www.ccdc.cam.ac.uk).

RESEARCH PROJECT

Sl. no.	Project title	Funding agency, duration and years	Role	Project cost (Lakh)
1.	Study of anticancer potential of North East Indian propolis and isolation of possible active principle(s).	DST ECR/2016/000079 (2016-2019)	Project Investigator (PI)	20.35
2.	Study of traditionally used dyes yielding plants for staining cells and cellular components and identification thereof: An eco-friendly and non-toxic alternative method.	S & T Division, ASTEC, Guwahati, Assam, India ASTEC/S&T/1614/7/2018-19/1580-1584 (2019-2021)	Project Investigator (PI)	1.4
3	Structure-based pharmacophore modeling and biological evaluation of novel CCR9 inhibitor(s) for the treatment of prostate cancer	CU/REGOFF/2017/012/7211 Cotton University (In house) (2019-2020)	Co-PI	1
4	DBT-BUILDER: Cotton University Interdisciplinary Life Science Programme for Advance Research and Education focusing Medicinal Plant Research and Biodiversity Conservation.	DBT BT/INF/22/SP45376/2022 (2022-2027)	Project Investigator (PI)	500 (5 Cr.)
5	Design of positively charged biomaterial/biopolymer coated pearl nucleus, and implantation into freshwater pearl oyster followed by survivability study and pearl quality assessment.	CU/Dean/R&D/2019/05/1995 Cotton University (In house) (2022-2023)	Project Investigator (PI)	1
6	Innovation in colored pearls production, and community mobilization and sensitization for the freshwater pearl culture leading to entrepreneurship development in Northeast India	North East Centre for Technology Application and Reach (NECTAR) TOSS-2022 (2023-2025)	Project Investigator (PI)	6.5
7	Innovative in nucleus design and implantation in pearl oysters, followed by community mobilization and sensitization for pearl farming leading to entrepreneurship development	BIO-NEST National Institute of Pharmaceutical Education and Research Guwahati (NIPER-G) (2023-2024)	Project Investigator (PI)	1
8	Development of educational and learning tools for kids using North East Indian freshwater mussels shell 's crafts: An effort towards waste-to-wealth management and circular economy	North East Entrepreneurship Development Program (NEEDP), IIM Calcutta Innovation Park, Joka, Diamond Harbour Road, Kolkata 700104. **Recognition of startup:** Registration number: BR103557MC, Startup name: BudEDU Tools, Date: 15 March 2023	Project Investigator (PI)	1
9	Winner of FAME Biotech 2.0 Hackathon. Title: Development of educational and learning tools for kids using freshwater mussel's shell: An effort towards waste-to-wealth management and circular economy.	Institute of Advanced Study in Science and Technology (IASST) (2023-2024)	Project Investigator (PI)	0.45
10	Study of pearl-producing potential of freshwater mussels from different parts of Assam and their commercial utilization for quality pearl production	CU/Dean/R&D/2019/02/23/69 Cotton University (In house) (2022-2023)	Co-PI	1
11	Creating educational and gaming resources for kids utilizing shell crafts from North East Indian freshwater mussels: A step towards waste-to-wealth management and the promotion	CU/Dean/R&D/2019/02/23/73 Cotton University (In house) (2022-2023)	Project Investigator (PI)	1

	of a circular economy.			
12	JNU-PAIR network on Science for Sustainable Future	ANRF/PAIR/2025/000029/PAIR-A (Sep 2025-Sep 2030) Anusandhan National Research Foundation (ANRF) Partnerships for Accelerated Innovation and Research (PAIR)	Co-PI/member (Theme: Advanced Materials & Molecular & Synthetic Biology)	1385 [13.85 Cr] (CU) 9870.462 (Total)

MICRO-RESEARCH PROJECT GUIDED

Sl. No.	Name and Enrolment No.	UG Course (Semester)	Title of Project	Year	Funding agency	Supervisor
1	Dimple Das (2311010817)	B.Sc. Zoology (4th Semester)	Evaluating Freshwater Mussel Diversity and Conservation Priorities in Goalpara District, Assam	2025	Cotton University	Dr. Akalesh Kumar Verma
2	Kasturi Borah (2311010869)	B.Sc. Zoology (4th Semester)	Utilization of Freshwater Mussel Shell Powder for the Development of a Drinking Water Micro-Porous Filtration Element	2025	Cotton University	Dr. Akalesh Kumar Verma
3	Anwesha Baidya (ZOO2311010833)	B.Sc. Zoology (4th Semester)	Assessment of Freshwater Mussel Diversity in Nagaon District, Assam: A Study on Distribution and Conservation Status	2025	Cotton University	Dr. Akalesh Kumar Verma
4	Alongkrita Rajkumari (ZOO2310010860)	B.Sc. Zoology (4th Semester)	Utilization of Temple Flower Waste as a Biofertilizer for Sustainable Soil Enrichment	2025	Cotton University	Dr. Akalesh Kumar Verma
5	Koushika Kashyap (2311010861)	B.Sc. Zoology (4th Semester)	Utilization of Silkworm Excreta as a Phytoplankton Growth Promoter for Freshwater Mussel Feed	2025	Cotton University	Dr. Akalesh Kumar Verma
6	Aparna Kalita (2311010842)	B.Sc. Zoology (4th Semester)	Assessment of Microplastic Pollution in Water Bodies of Guwahati and Nearby Areas: Implication for Aquatic Ecosystems	2025	Cotton University	Dr. Akalesh Kumar Verma
7	Darshana Duarah (2311010865)	B.Sc. Zoology (4th Semester)	Utilization of Freshwater Mussel Shell Powder for the Development of an Electricity-Free Freezer for Vegetable Storage	2025	Cotton University	Dr. Akalesh Kumar Verma
8	Anindita Kashyap (ZOO2311010823)	B.Sc. Zoology (4th Semester)	Diversity, Distribution and Conservation Status of Freshwater Mussels in Sivasagar District, Assam	2025	Cotton University	Dr. Akalesh Kumar Verma
9	Hemangi Talukdar (ZOO2421100725)	B.Sc. Zoology (2nd Semester)	Assessment of Freshwater Mussels Diversity in Barpeta District, Assam: A Study on Distribution and Conservation Status	2025	Cotton University	Dr. Akalesh Kumar Verma
10	Ishita Agarwal (2421100619)	B.Sc. Zoology (2nd Semester)	Market Survey and Diversity Assessment of Freshwater Mussels for Sustainable Pearl Farming in Northeast India	2025	Cotton University	Dr. Akalesh Kumar Verma

11	Tamanna Tabassum (2421100743)	B.Sc. Zoology (2nd Semester)	Microplastic Accumulation in Freshwater Mussels: An Examination of Tissue Contamination from Polluted Water	2025	Cotton University	Dr. Akalesh Kumar Verma
12	Ratna Prava Bungrung (2311010853)	B.Sc. Zoology (6th Semester)	Uses of dead freshwater mussel shells for handicraft items	2026	Cotton University	Dr. Akalesh Kumar Verma
13	Alongkrita Rajkumari (2311010860)	B.Sc. Zoology (6th Semester)	Utilization of Dead Freshwater Mussel Shells as a Sustainable Educational Tool in Early Childhood Learning	2026	Cotton University	Dr. Akalesh Kumar Verma
14	Uddipta Hazarika (ZOO2311010841)	B.Sc. Zoology (6th Semester)	Use of Dead Freshwater Mussels Shells for Making Handmade Jewelry	2026	Cotton University	Dr. Akalesh Kumar Verma
15	Tamanna Khan (2310010863)	B.Sc. Zoology (6th Semester)	Study of spider behaviour and orb-web architecture followed by the study of their biological significance	2026	Cotton University	Dr. Akalesh Kumar Verma
16	Darshana Gogoi (2421100668)	B.Sc. Zoology (4th Semester)	Study of Freshwater Mussel Diversity in Khamrenga Beel, Chandrapur, Kamrup Metropolitan District	2026	Cotton University	Dr. Akalesh Kumar Verma
17	Simran Saikia (2421100637)	B.Sc. Zoology (4th Semester)	Study of freshwater mussels (Bivalvia: Unionida) diversity in Dibrugarh district of Assam	2026	Cotton University	Dr. Akalesh Kumar Verma

EDITORIAL BOARD MEMBER

Serving as an Editorial Board Member of three peer-reviewed National/International journals

- ***Discover Chemistry***
- ***Biotechnology and Bioinformatics***
- ***Himalayan Journal of Basic and Applied Sciences***

Contributing to the maintenance of scientific quality, peer-review standards, and advancement of interdisciplinary research.

COTTON UNIVERSITY PROFESSIONAL RESPONSIBILITY

1. Served as one of the core committee members for reviewing and drafting application for NIRF Ranking in the year 2022.Duty assigned by: Honorable Vice Chancellor, Cotton University (CU).
2. Actively involved in a committee formed for web data entry, content migration, photo/video editing and Assamese translation of the University website in the year 2021.Duty assigned by: Honorable Vice Chancellor, Cotton University (CU).
3. Temporarily engaged as Guest Resource person at CU for conducting part-time classes in the Department of Molecular Biology and Biotechnology (MBBT) w.e.f. 15.02.24 to till now. Duty assigned by: Respected Registrar, Cotton University (CU).
4. Served as a drafting committee member in a project implementation group constituted for PURSE-2024, DST scheme, Cotton University, March 2024. Duty assigned by respected Dean R&D, Cotton University.
5. Served as a "Placement and Career Counseling Cell" committee member constituted to look into the various aspect of placement and career counseling of students of the University in the year 2021.Duty assigned by: Respected Registrar, Cotton University (CU).
6. Member of Intellectual Property Rights Cell, Cotton University since 2021.Duty assigned by: Honorable Vice Chancellor, Cotton University (CU).
7. Served as an active committee member constituted to examine the Micro Research Projects submitted by the UG 6th semester and PG 4th semester students of Cotton University in the year 2022. Duty assigned by Honorable Vice Chancellor& Director of Students Welfare, CU

8. Member of General Purchase Committee of CU as per clause 32.1 of the First Statute of CU [vide Section 23(ix) of the Cotton University Act, 2017] in the year 2023.Duty assigned by Honorable Vice Chancellor.
9. Active member of Annual In-house Advisory Committee for "DBT Sponsored M.Sc. course in the department of MBBT, offered by Cotton University" in the year 2023.Duty assigned by Honorable Vice Chancellor.
10. Member of Committee constituted to select two internship positions (ASTEC Funded Project: Evaluation of ecosystem services provided by the wetland and the forests to the local communities in three villages adjoining Deepor Beel) against advertisement No: Recruitment/CU/2023/11 in the year 2023.
11. Served as an active committee member constituted to examine the Micro Research Projects submitted by the UG 6th semester and PG 4th semester students of Cotton University in the year 2023. Duty assigned by Honorable Vice Chancellor & Director of Students Welfare, CU.
12. Served as a Board of Study member for UG and PG of the department of Zoology, Cotton University. Date: 08-01-2018, Duty assigned by Academic Registrar (i/c), CU.
13. Member of Institutional Biosafety Committee (IBSC), Cotton University. March 9, 2020.

JOURNALS REVIEWER

1.Journal of Ethnopharmacology, **2.** Anticancer Agent in Medicinal Chemistry, **3.** Current Science **4.** Current Nutraceuticals, **5.** Anti-Infective Agents, **6.** Bulletin of the World Health Organization, **7.** Plos One, **8.** Journal of Biomolecular Structure and Dynamics, **9.** Philippine Journal of Science, **10.** Indian Journal of Experimental Biology, **11.** Indian Journal of Traditional Knowledge, **12.** Journal of Molecular Structure, **13.** Frontiers in Bioscience-Landmark, **14.** Metabolites, **15.** Molecules, **16.** Life, **17.** Metabolites, **18.** Biomedicines, **19.** International Journal of Environmental Research and Public Health, **20.** Pharmaceuticals, **21.** Cells, **22.** Medicina, **23.** Journal of Clinical Medicine, **24.** International Journal of Molecular Sciences, **25.** Journal of Pharmacy and Pharmacology, **26.** Journal of Inorganic Biochemistry, **27.** Inorganic chemistry communications, **28.** Inorganica Chimica Acta, **29.** Journal of inorganic biochemistry, **30.** Current Pharmaceutical Design. **31.** Mollusca Research, **32.** Journal of Molecular Structure.

NATIONAL & INTERNATIONAL RESEARCH COLLABORATIONS

Cachhar Cancer Hospital & Research Centre, Silchar, Assam, India, **2.** North East Cancer Hospital and Research Institute, Guwahati, Assam, India, **3.**Cosmic Cordyceps Farm, Faridabad, India, **4.** Department of Chemistry, NIT, Silchar, Assam, **5.** Bodoland University, Kokrajhar, Assam, India, **6.** Drug Research Institution (CDRI), Lucknow, India, **7.** Department of Bioinformatics, Stella Maris College (Autonomous), Tamil Nadu, India, **8.** Chemistry Department, Cotton University, Assam, India, **9.** Chemistry Department, North Eastern Hill University, Meghalaya, India, **10.** Maastricht University, Netherland, **11.** Morehouse School of Medicine, Atlanta, USA, **12.** Gyeongsang National University (GNU), Republic of Korea, **13.** Universidade Federal de Alfenas, Alfenas, Minas Gerais, Brazil, **14.** Maastricht University, MD Maastricht, Netherlands, **15.** Comsats University Islamabad, Pakistan, **16.** Universitat de les Illes Balears, Spain.

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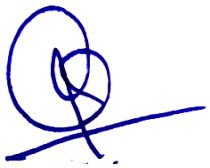
DECLARATION

I do hereby declare that the statements made in this curriculum vitae are true, complete and correct to the best of my knowledge and belief.

Place: Guwahati

Akalesh Kumar Verma



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